GENESYS™ 1.7kW

EVALUATION DATA

DWG: IA845-53-01		
APPD	CHK	DWG
Sergey.K 4/9/2018	Uri M 4/9/2018	MICHAEL G. 4.9.2018

TDK-LAMBDA

INDEX PAGE

TERMINOLOGY USED

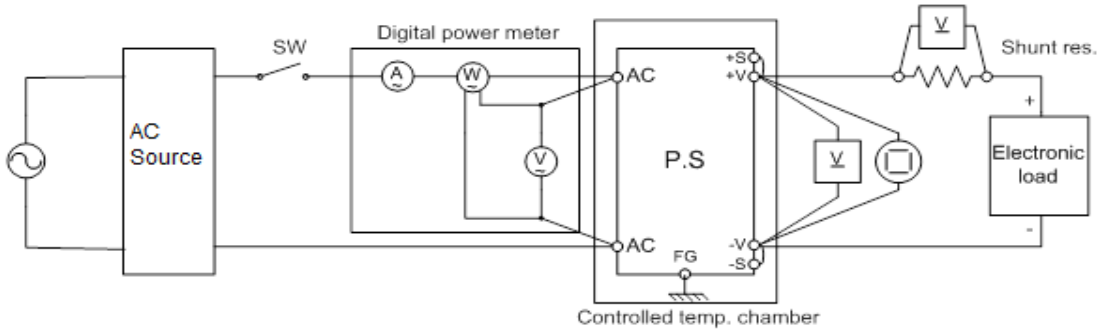
Definition

Vin	Input voltage
Vout	Output voltage
Iin	Input current
Iout	Output current
Ta	Ambient temperature
C.V	Constant voltage mode
C.C	Constant current mode

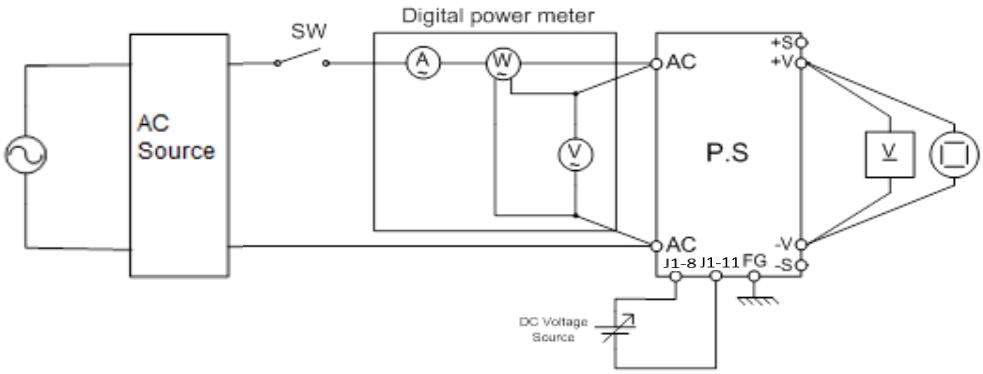
1. EVALUATION METHOD

1.1 Circuit used for determination

(1) Steady state data

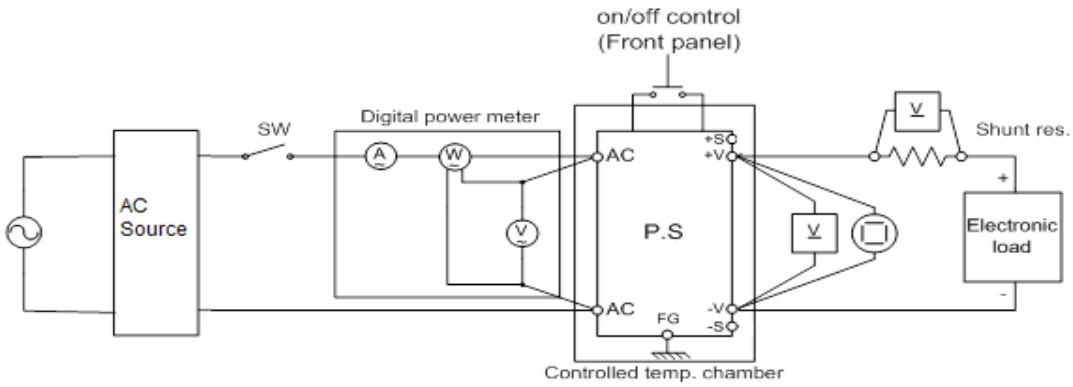


(2) Over voltage protection (OVP) characteristics

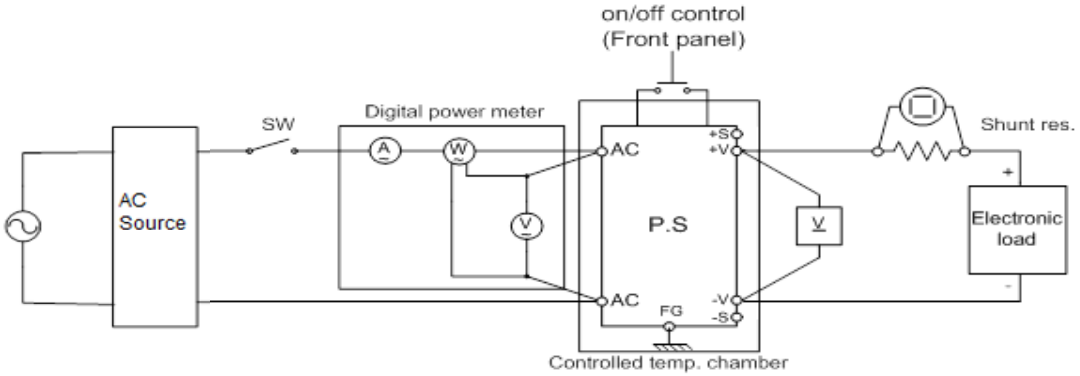


(3) Output rise/fall characteristics

Constant Voltage mode

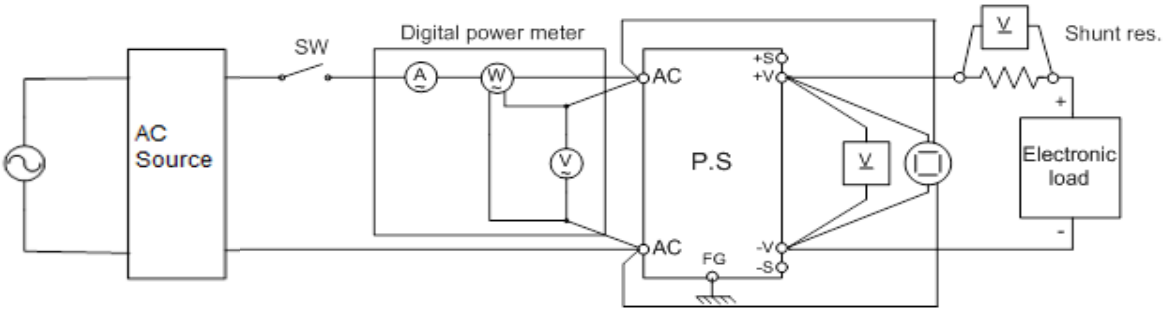


Constant Current mode

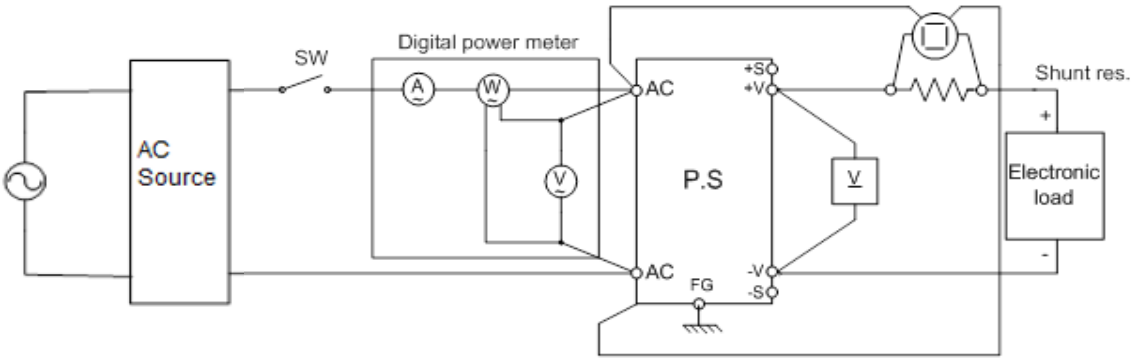


(4) Dynamic line response characteristics

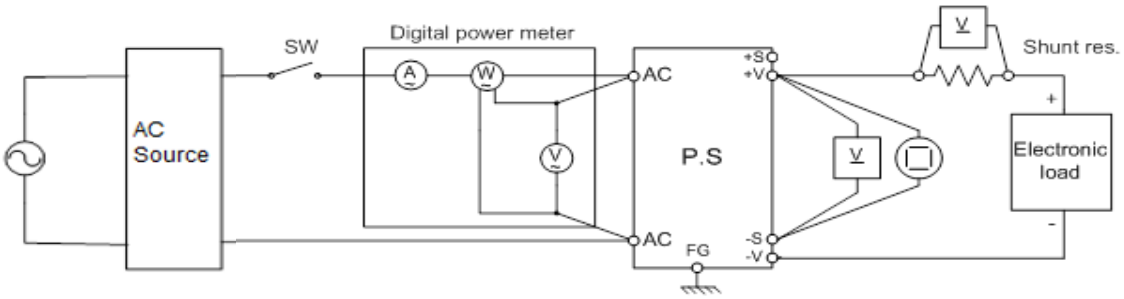
Constant Voltage mode



Constant Current mode

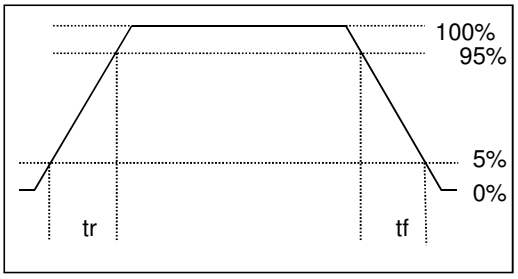


(5) Dynamic load response characteristics



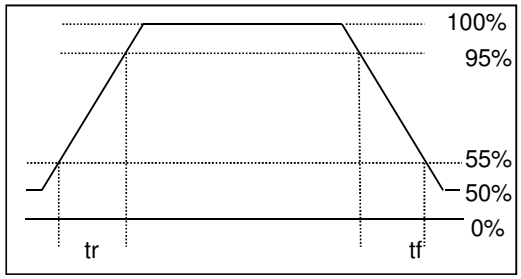
Output current waveform

Iout 0% <---> 100%



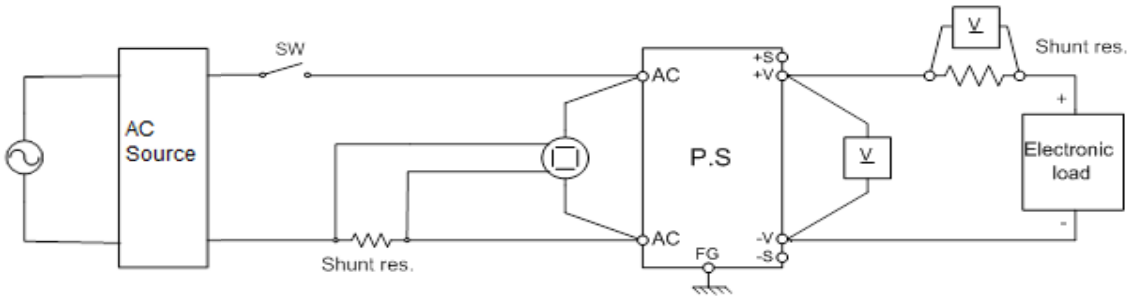
Output current waveform

Iout 50% <---> 100%

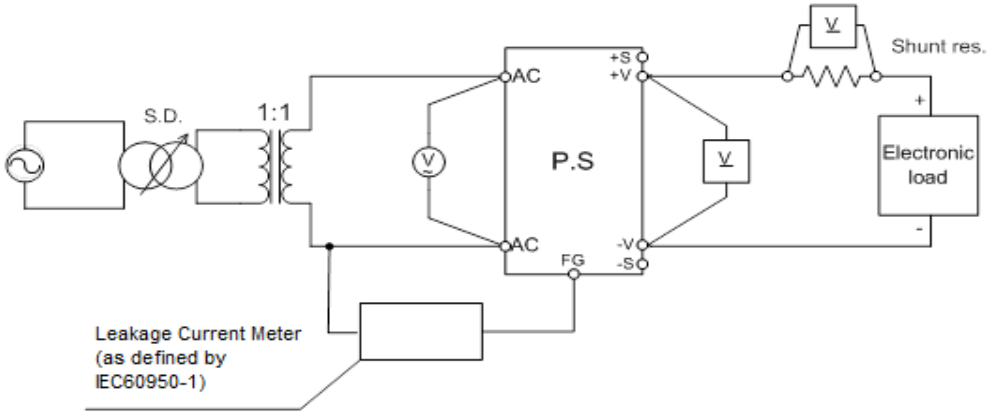


(6) Inrush current characteristics

Constant Voltage mode

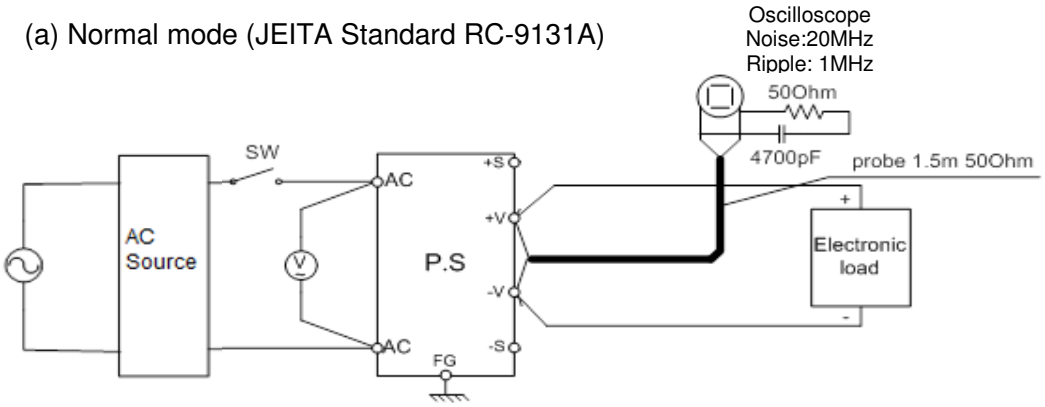


(7) Leakage current characteristics

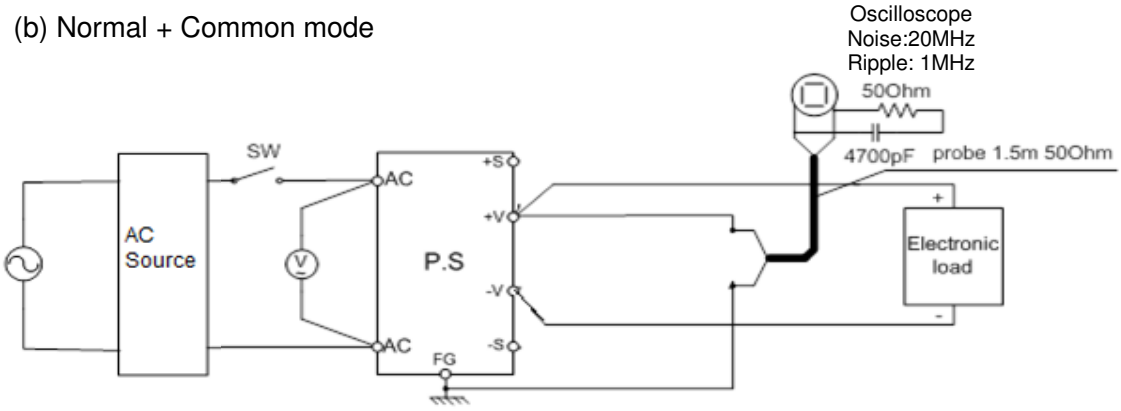


(8) Output ripple & noise waveform (10V to 300V models)

(a) Normal mode (JEITA Standard RC-9131A)

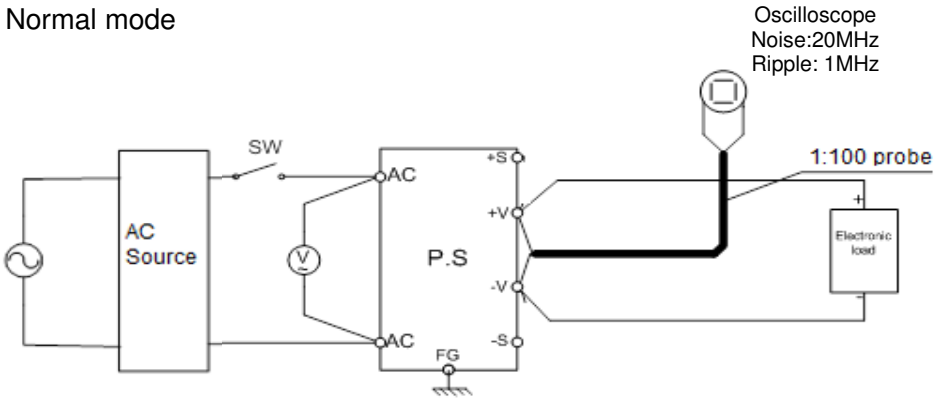


(b) Normal + Common mode

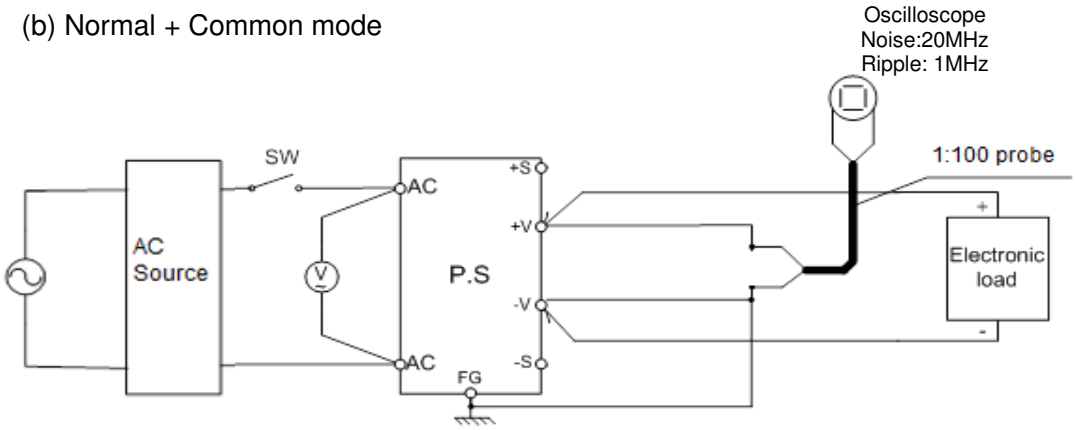


(9) Output ripple & noise waveform (400V to 600V models)

(a) Normal mode



(b) Normal + Common mode



1.2 List of equipment used

	EQUIPMENT USED	MANUFACTURER	MODEL No.
1	Storage oscilloscope	YOKOGAWA	DLM2034
2	Storage oscilloscope	YOKOGAWA	DL1740
3	Digital multimeter	AGILENT	34401A
4	Digital power meter	YOKOGAWA	WT110
5	AC Source	CHROMA	6530
6	AC Source	CHROMA	6560
7	Electronic load	H&H	ZS1880
8	Electronic load	H&H	ZS4260
9	Electronic load	H&H	ZS7060
10	Electronic load	CHROMA	63201
11	Electronic load	CHROMA	63202
12	Electronic load	CHROMA	63206A
13	Controlled temp. chamber	THERMOTRON	SM-16-3800
14	Controlled temp. chamber	THERMOTRON	SE-600-5-5
15	Controlled temp. chamber	THERMOTRON	SE-600-6-6
16	Leakage current tester	KIKUSUI	TOS3200
17	Current probe	YOKOGAWA	701931
18	Transducer	LEM	IT700-SB
19	Transducer	LEM	IT60-S
20	Transducer	LEM	IT200-S

(1). Regulation - Line & Load, Temperature drift

G10-170

Conditions: Ta = 25℃

1. Regulation - Line & Load

	Vin							
Io	85VAC	100VAC	115VAC	200VAC	230VAC	265VAC	Line Regulation	
0%	9.9997	9.9997	9.9997	9.9997	9.9997	9.9997	0.0	0.000%
25%	9.9993	9.9993	9.9993	9.9993	9.9993	9.9993	0.0	0.000%
50%	9.9988	9.9988	9.9988	9.9989	9.9989	9.9989	0.1	0.001%
75%	9.9982	9.9982	9.9982	9.9982	9.9982	9.9982	0.0	0.000%
100%	9.9979	9.9979	9.9979	9.9979	9.9979	9.9979	0.0	0.000%
Load	1.8	1.8	1.8	1.8	1.8	1.8	ΔV(mV)	
Regulation	0.018%	0.018%	0.018%	0.018%	0.018%	0.018%		

2. Temperature drift, C.V mode

Conditions: Vin:100VAC
Iout:100%

Ta	0℃	25℃	50℃	Temp. Coefficient (0˚C~50˚C)			
Vout	9.9979	9.9977	9.9975	0.4	mV	1	ppm/˚C

G60-28

Conditions: Ta = 25℃

1. Regulation - Line & Load, C.V mode /

	Vin							
Io	85VAC	100VAC	115VAC	200VAC	230VAC	265VAC	Line Regulation	
0%	60.0332	60.0332	60.0333	60.0331	60.0333	60.0332	0.2	0.000%
25%	60.0322	60.0323	60.0323	60.0323	60.0324	60.0324	0.2	0.000%
50%	60.0320	60.0321	60.0321	60.0321	60.0321	60.0322	0.2	0.000%
75%	60.0316	60.0317	60.0317	60.0317	60.0318	60.0318	0.2	0.000%
100%	60.0309	60.0310	60.0312	60.0312	60.0313	60.0314	0.5	0.001%
Load	2.3	2.2	2.1	1.9	2.0	1.8	ΔV(mV)	
Regulation	0.004%	0.004%	0.003%	0.003%	0.003%	0.003%		

2. Temperature drift, C.V mode

Conditions: Vin:100VAC
Iout:100%

Ta	0℃	25℃	50℃	Temp. Coefficient (0˚C~50˚C)			
Vout	59.9917	60.0018	60.0092	17.5	mV	6	ppm/˚C

(1). Regulation - Line & Load, Temperature drift

G150-11.2

Conditions: Ta = 25℃

1. Regulation - Line & Load

	Vin							
Io	85VAC	100VAC	115VAC	200VAC	230VAC	265VAC	Line Regulation	
0%	149.9921	149.9926	149.9930	149.9929	149.9930	149.9931	1.0	0.001%
25%	149.9923	149.9923	149.9928	149.9923	149.9925	149.9924	0.5	0.000%
50%	149.9919	149.9922	149.9924	149.9923	149.9921	149.9924	0.5	0.000%
75%	149.9918	149.9922	149.9918	149.9920	149.9921	149.9921	0.4	0.000%
100%	149.9907	149.9912	149.9910	149.9911	149.9915	149.9914	0.8	0.001%
Load	1.6	1.4	2.0	1.8	1.5	1.7	ΔV(mV)	
Regulation	0.001%	0.001%	0.001%	0.001%	0.001%	0.001%		

2. Temperature drift, C.V mode

Conditions: Vin:100VAC
Iout:100%

Ta	0℃	25℃	50℃	Temp. Coefficient (0˚C~50˚C)			
Vout	149.982	149.999	149.998	17	mV	2	ppm/˚C

G600-2.8

Conditions: Ta = 25℃

1. Regulation - Line & Load, C.V mode /

	Vin							
Io	85VAC	100VAC	115VAC	200VAC	230VAC	265VAC	Line Regulation	
0%	599.9630	599.9630	599.9630	599.9630	599.9630	599.9630	0.0	0.000%
25%	599.9600	599.9600	599.9600	599.9600	599.9600	599.9600	0.0	0.000%
50%	599.9590	599.9590	599.9590	599.9590	599.9590	599.9590	0.0	0.000%
75%	599.9580	599.9580	599.9580	599.9580	599.9580	599.9580	0.0	0.000%
100%	599.9570	599.9570	599.9570	599.9570	599.9570	599.9570	0.0	0.000%
Load	6.0	6.0	6.0	6.0	6.0	6.0	ΔV(mV)	
Regulation	0.001%	0.001%	0.001%	0.001%	0.001%	0.001%		

2. Temperature drift, C.V mode

Conditions: Vin:100VAC
Iout:100%

Ta	0℃	25℃	50℃	Temp. Coefficient (0˚C~50˚C)			
Vout	599.972	600.026	600.035	63	mV	2	ppm/˚C

(1). Regulation - Line & Load, Temperature drift

G10-170

Conditions: Ta = 25℃

1. Regulation - Line & Load, C.C mode (*)

	Vin							
Vo	85VAC	100VAC	115VAC	200VAC	230VAC	265VAC	Line Regulation	
0%	169.7950	169.7950	169.7950	169.7950	169.7950	169.7950	0.0	0.000%
25%	169.7910	169.7910	169.7910	169.7910	169.7910	169.7910	0.0	0.000%
50%	169.7820	169.7820	169.7820	169.7820	169.7820	169.7820	0.0	0.000%
75%	169.7840	169.7840	169.7840	169.7840	169.7840	169.7840	0.0	0.000%
100%	169.7750	169.7750	169.7750	169.7750	169.7750	169.7750	0.0	0.000%
Load	20.0	20.0	20.0	20.0	20.0	20.0	ΔI(mA)	
Regulation	0.012%	0.012%	0.012%	0.012%	0.012%	0.012%		

2. Temperature drift, C.C mode

Conditions: Vin:100VAC
Iout:100%

Ta	0℃	25℃	50℃	Temp. Coefficient (0˚C~50˚C)			
Iout	169.899	169.769	169.673	226	mA	27	ppm/˚C

G60-28

1. Regulation - Line & Load, C.C mode (*)

	Vin							
Vo	85VAC	100VAC	115VAC	200VAC	230VAC	265VAC	Line Regulation	
0%	27.9936	27.9935	27.9935	27.9937	27.9940	27.9940	0.5	0.002%
25%	27.9940	27.9941	27.9941	27.9941	27.9942	27.9942	0.2	0.001%
50%	27.9947	27.9949	27.9948	27.9945	27.9946	27.9948	0.4	0.001%
75%	27.9957	27.9959	27.9961	27.9957	27.9960	27.9962	0.5	0.002%
100%	27.9954	27.9955	27.9954	27.9951	27.9955	27.9956	0.5	0.002%
Load	2.1	2.4	2.6	2.0	2.0	2.2	ΔI(mA)	
Regulation	0.007%	0.009%	0.009%	0.007%	0.007%	0.008%		

2. Temperature drift, C.C mode

Conditions: Vin:100VAC
Iout:100%

Ta	0℃	25℃	50℃	Temp. Coefficient (0˚C~50˚C)			
Iout	27.9936	28.0116	28.0465	52.9	mA	38	ppm/˚C

Notes:
(*) Not including load regulation thermal drift effect.

(1). Regulation - Line & Load, Temperature drift

G150-11.2

Conditions: Ta = 25℃

1. Regulation - Line & Load, C.C mode (*)

	Vin							
Vo	85VAC	100VAC	115VAC	200VAC	230VAC	265VAC	Line Regulation	
0%	11.1978	11.1979	11.1978	11.1976	11.1977	11.1976	0.3	0.003%
25%	11.1970	11.1974	11.1974	11.1971	11.1972	11.1972	0.4	0.004%
50%	11.1984	11.1987	11.1986	11.1983	11.1986	11.1986	0.4	0.004%
75%	11.1988	11.1991	11.1992	11.1987	11.1991	11.1991	0.5	0.004%
100%	11.1986	11.1991	11.1991	11.1985	11.1989	11.1990	0.6	0.005%
Load	1.8	1.7	1.8	1.6	1.9	1.9	ΔI(mA)	
Regulation	0.016%	0.015%	0.016%	0.014%	0.017%	0.017%		

2. Temperature drift, C.C mode

Conditions: Vin:100VAC
Iout:100%

Ta	0℃	25℃	50℃	Temp. Coefficient (0˚C~50˚C)			
Iout	11.1947	11.1979	11.2060	11.3	mA	20	ppm/˚C

G600-2.8

1. Regulation - Line & Load, C.C mode (*)

	Vin							
Vo	85VAC	100VAC	115VAC	200VAC	230VAC	265VAC	Line Regulation	
0%	2.8003	2.8003	2.8003	2.8003	2.8003	2.8003	0.0	0.000%
25%	2.8003	2.8003	2.8003	2.8003	2.8003	2.8003	0.0	0.000%
50%	2.8006	2.8006	2.8006	2.8006	2.8006	2.8006	0.0	0.000%
75%	2.8006	2.8006	2.8006	2.8006	2.8006	2.8006	0.0	0.000%
100%	2.8008	2.8008	2.8008	2.8008	2.8008	2.8008	0.0	0.000%
Load	0.5	0.5	0.5	0.5	0.5	0.5	ΔI(mA)	
Regulation	0.018%	0.018%	0.018%	0.018%	0.018%	0.018%		

2. Temperature drift, C.C mode

Conditions: Vin:100VAC
Iout:100%

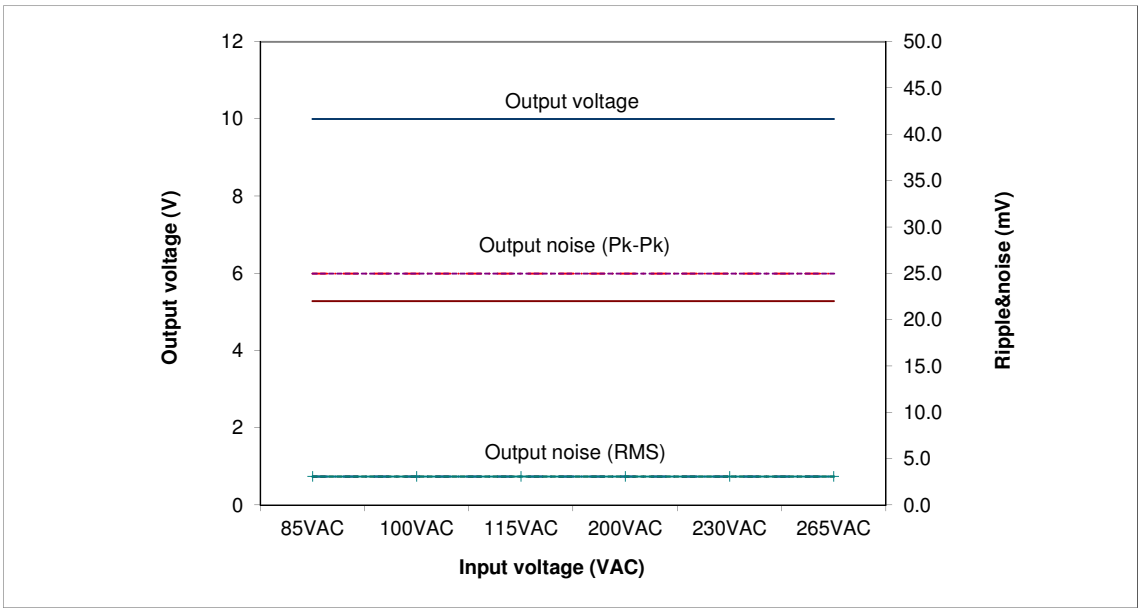
Ta	0℃	25℃	50℃	Temp. Coefficient (0˚C~50˚C)			
Iout	2.8006	2.8015	2.8029	2.3	mA	16	ppm/˚C

Notes:
(*) Not including load regulation thermal drift effect.

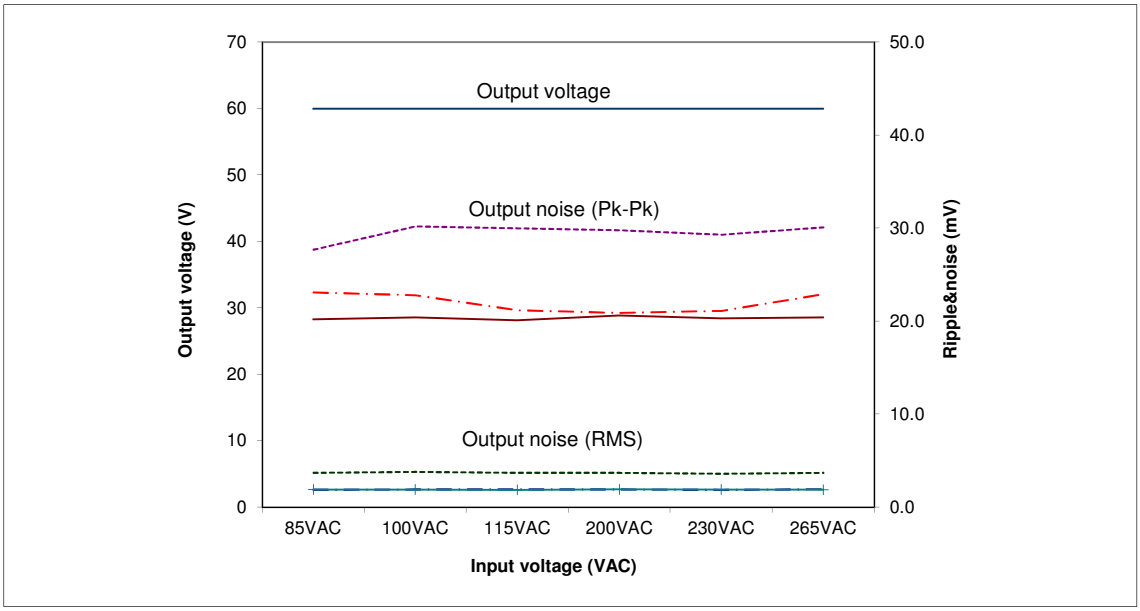
(2). Output voltage and ripple voltage vs. input voltage
C.V mode

Conditions: Iout:100%
Ta: 0˚C
25˚C
50˚C

G10-170



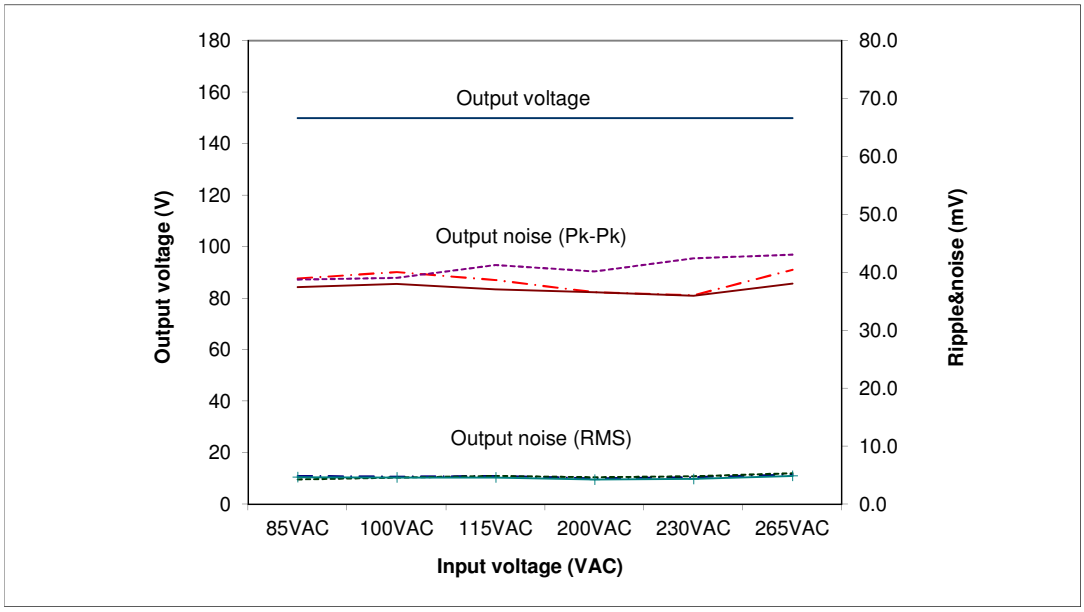
G60-28



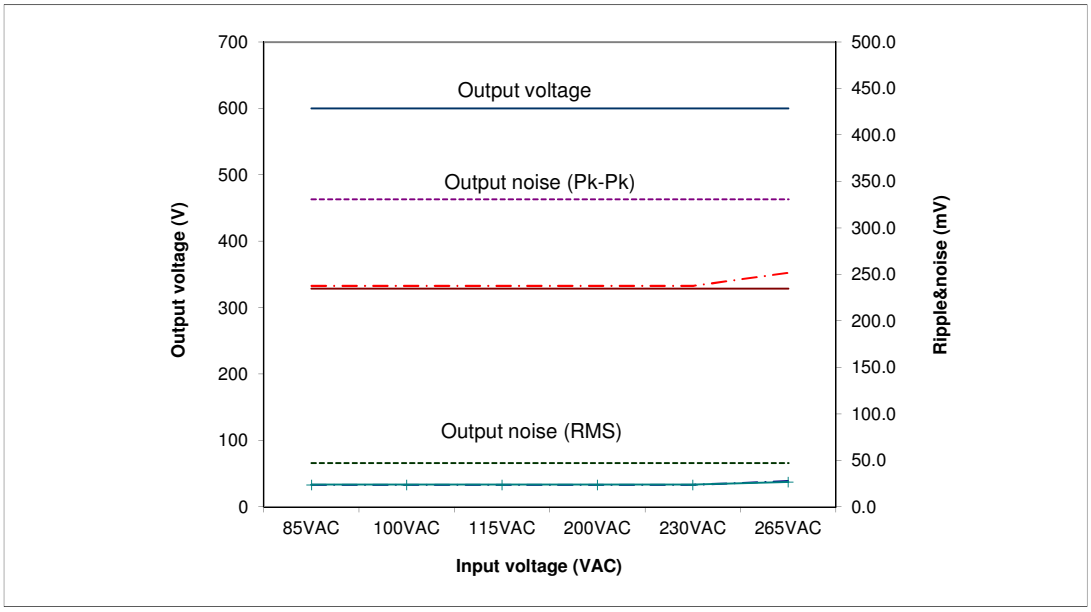
(2). Output voltage and ripple voltage vs. input voltage
C.V mode

Conditions: Iout:100%
Ta: 0˚C
25˚C
50˚C

G150-11.2



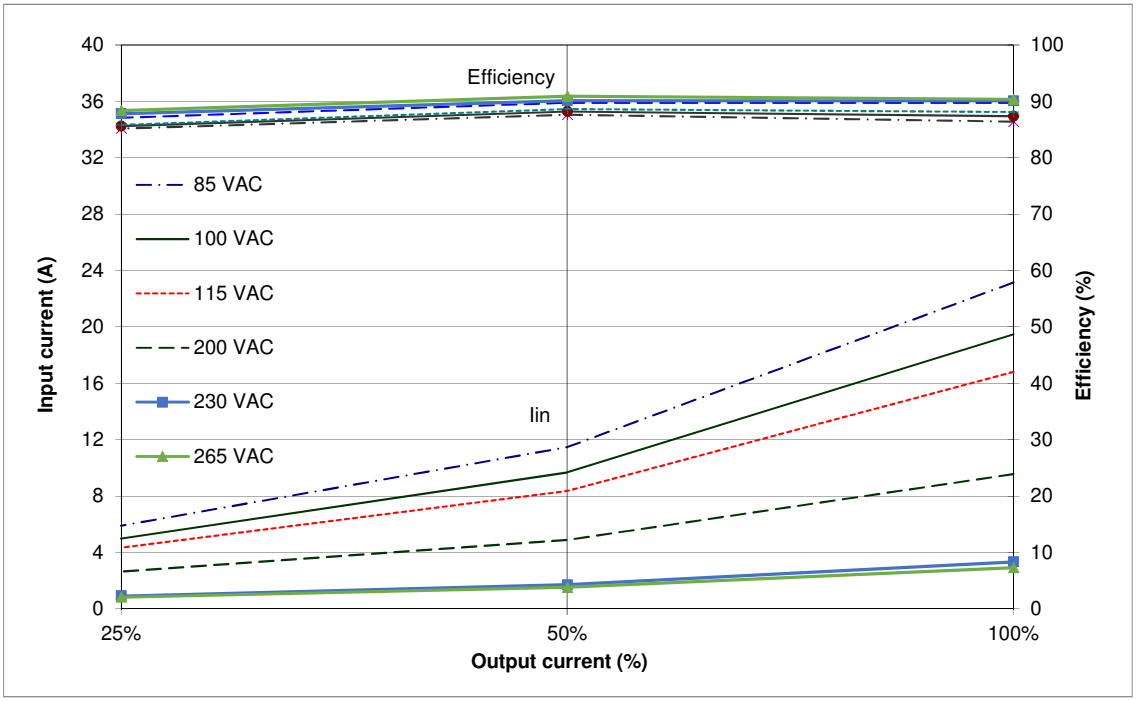
G600-2.8



(3). Efficiency and Input current vs. Output current

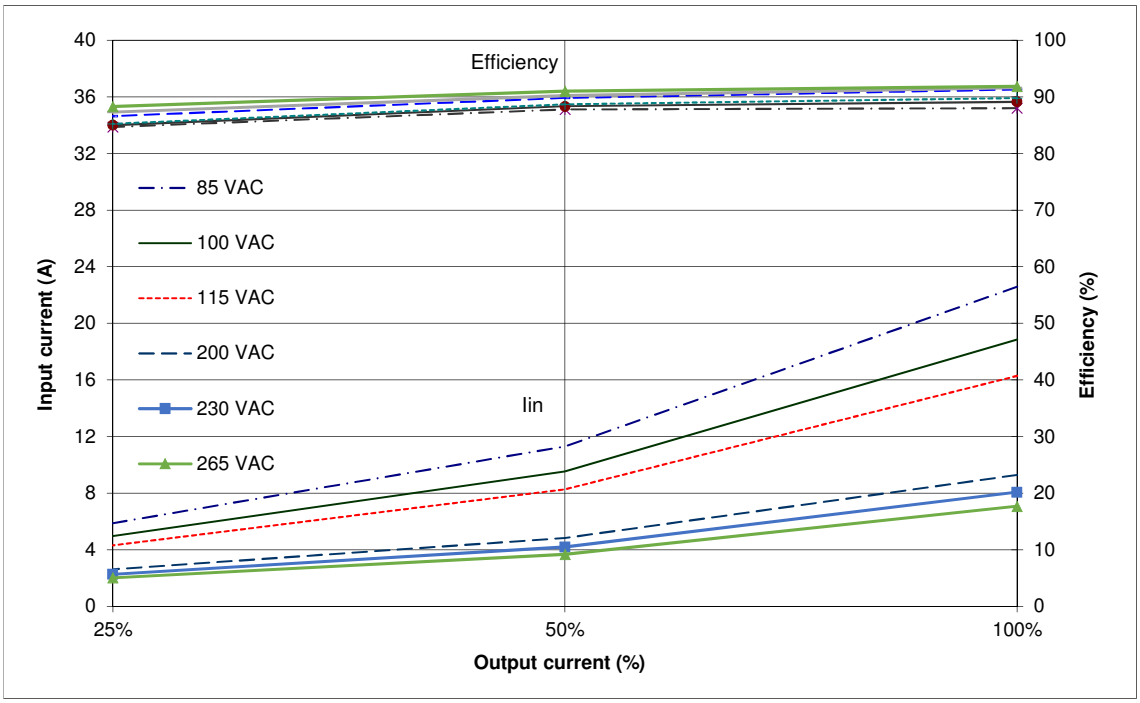
G10-170

Conditions:
Vin: 85~265 VAC
Vout: 100%
Ta: 25˚C



G60-28

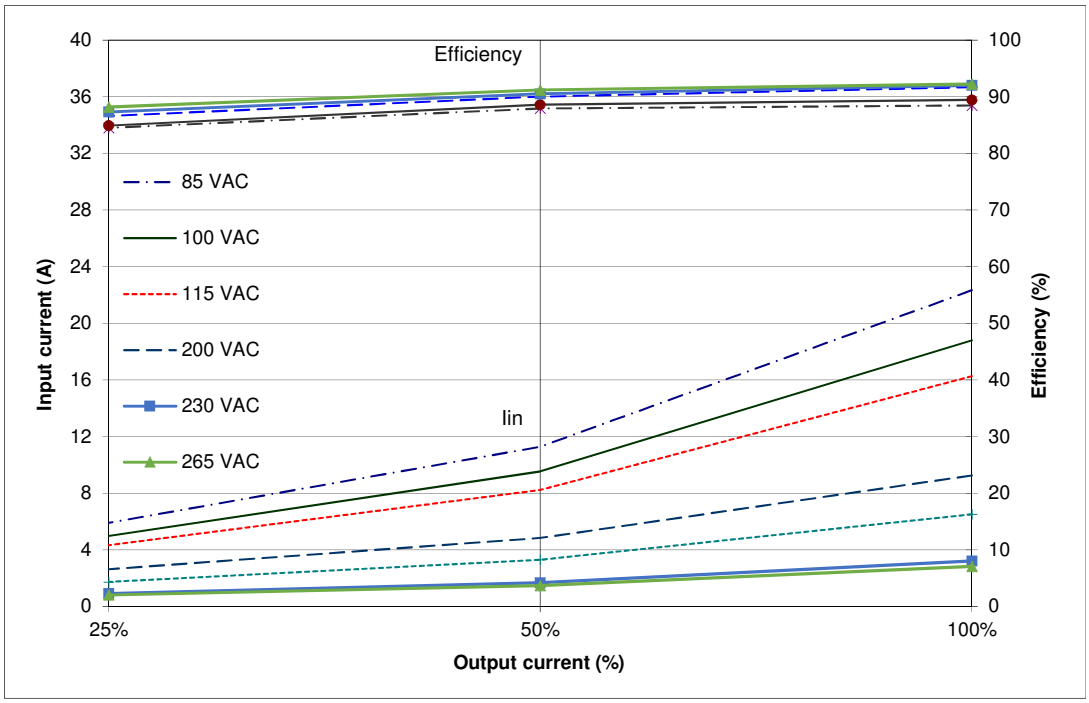
Conditions:
Vin: 85~265 VAC
Vout: 100%
Ta: 25˚C



(3). Efficiency and Input current vs. Output current

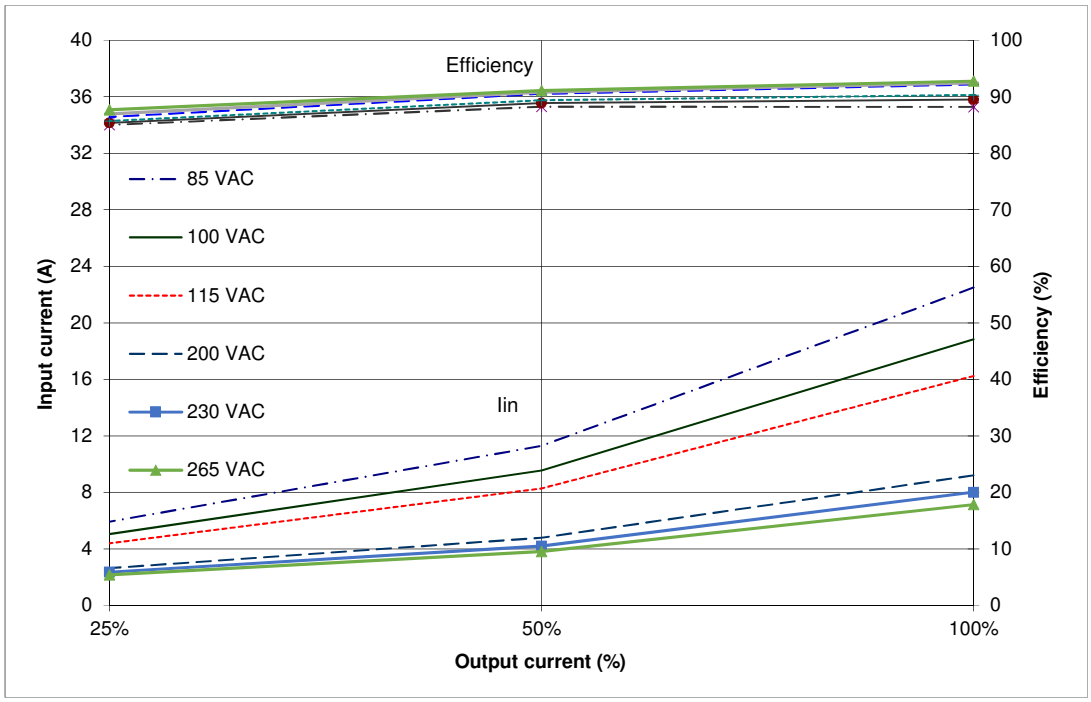
G150-11.2

Conditions:
Vin: 85~265 VAC
Vout: 100%
Ta: 25˚C



G600-2.8

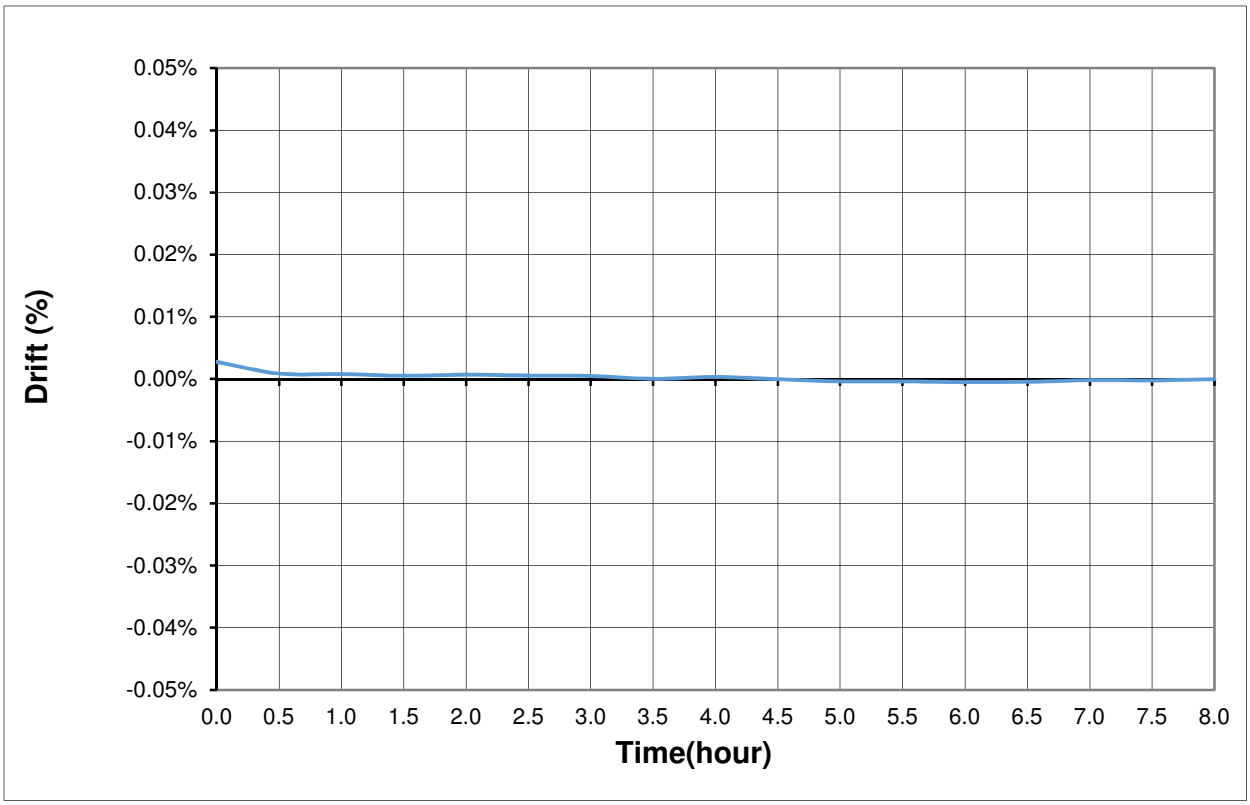
Conditions:
Vin: 85~265 VAC
Vout: 100%
Ta: 25˚C



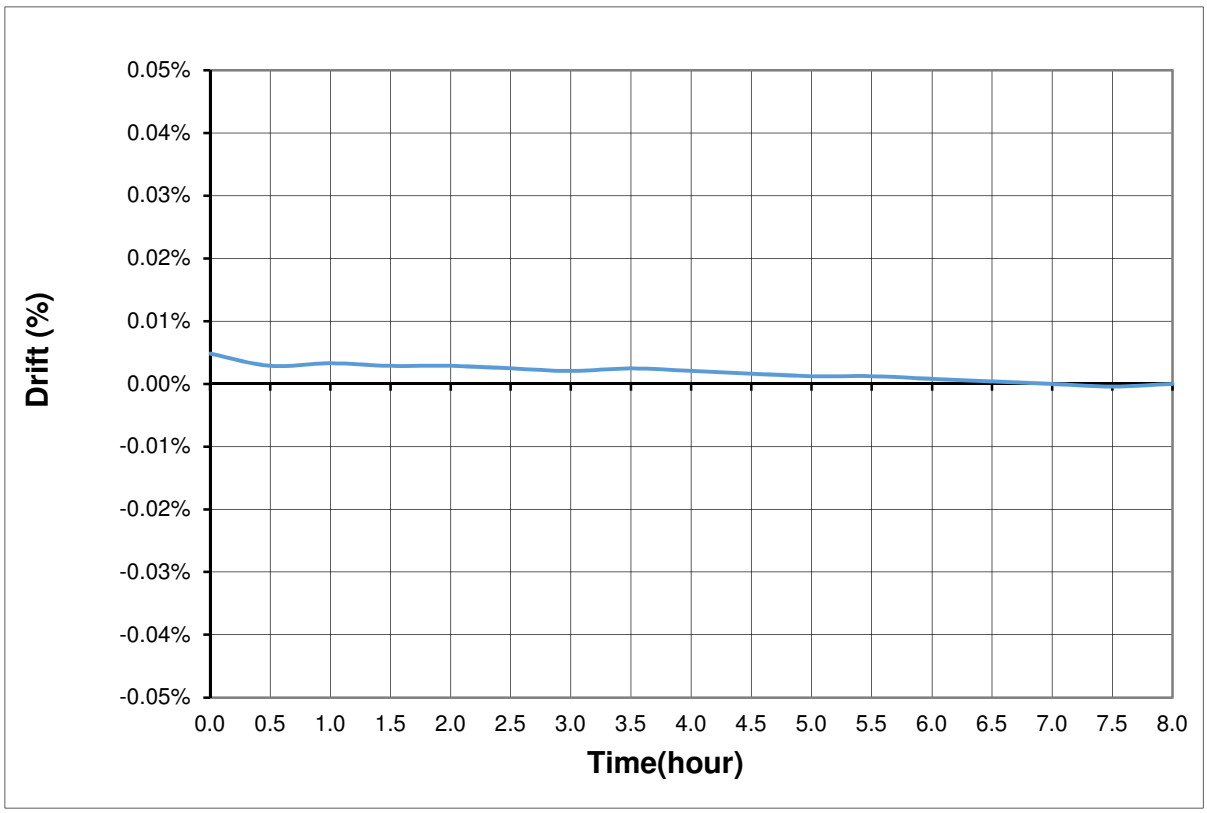
2.2 Warm up drift & stability

Conditions: Vin:100VAC
Vout: 100%
Iout: 100%
Ta = 25℃

G10-170 C.V mode



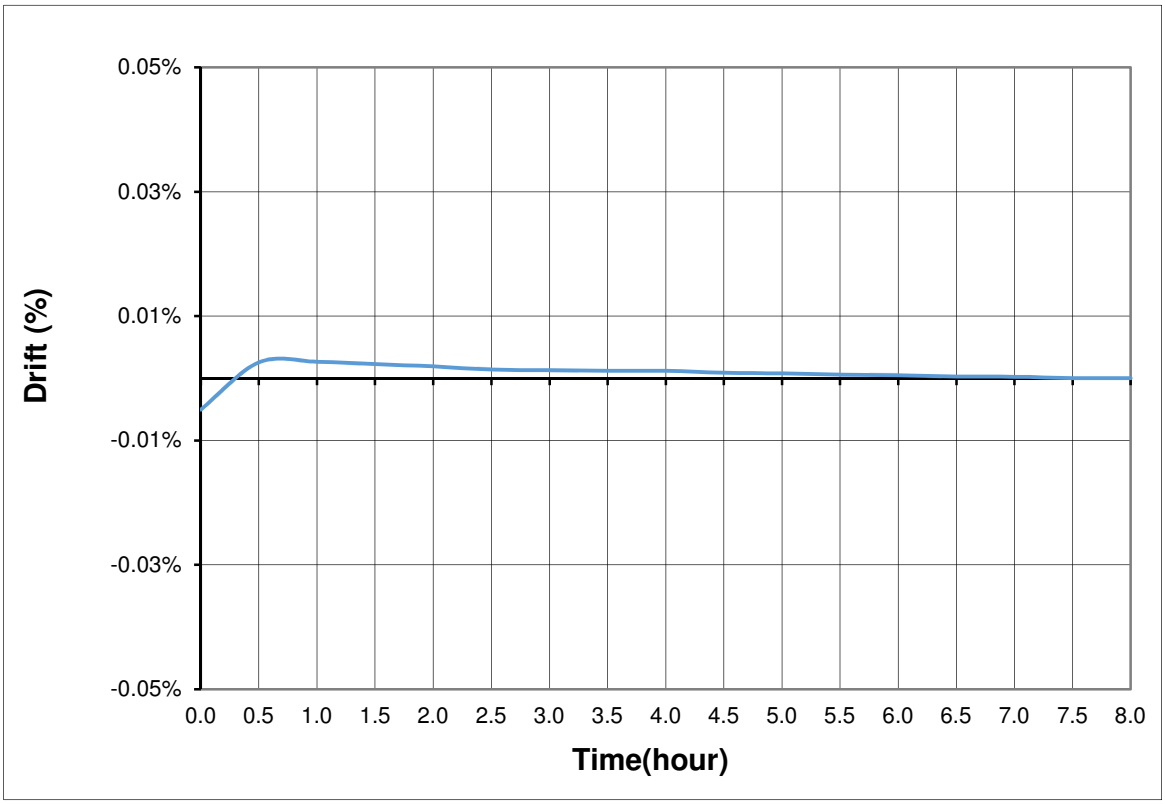
G10-170 C.C mode



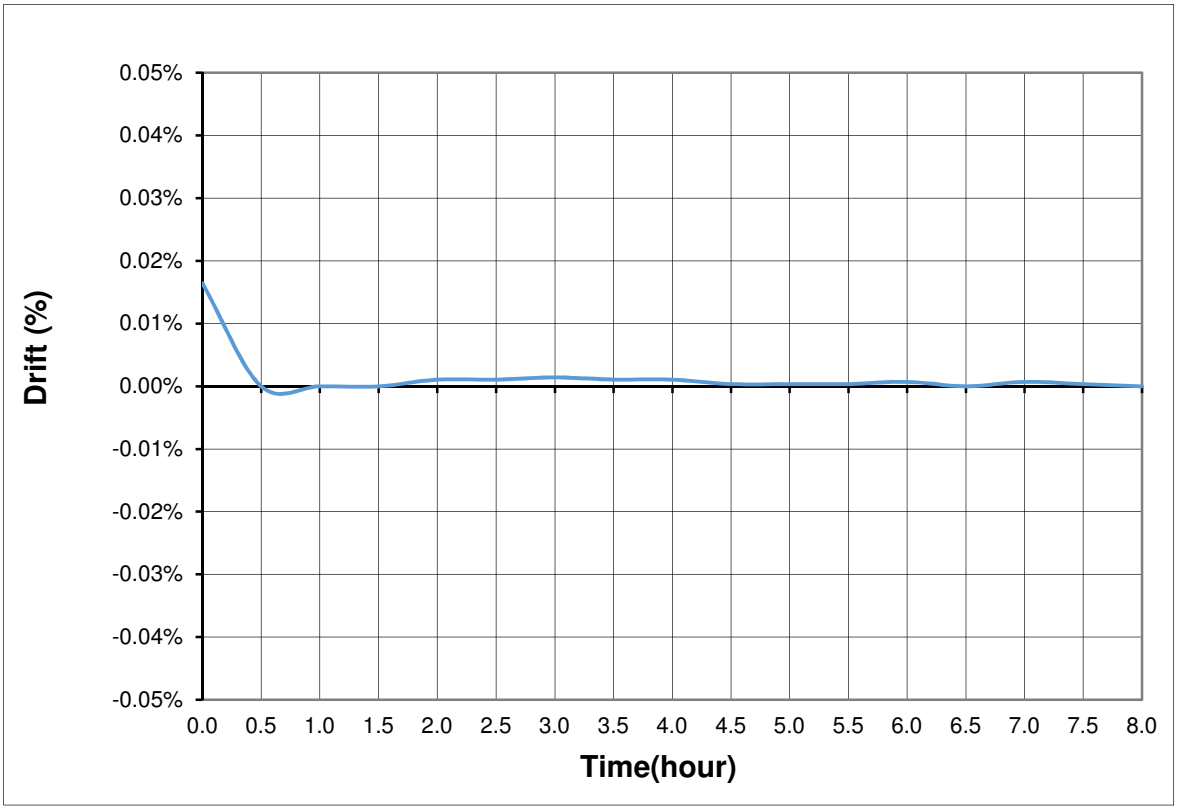
2.2 Warm up drift & stability

Conditions: Vin:100VAC
Vout: 100%
Iout: 100%
Ta = 25℃

G60-28 C.V mode



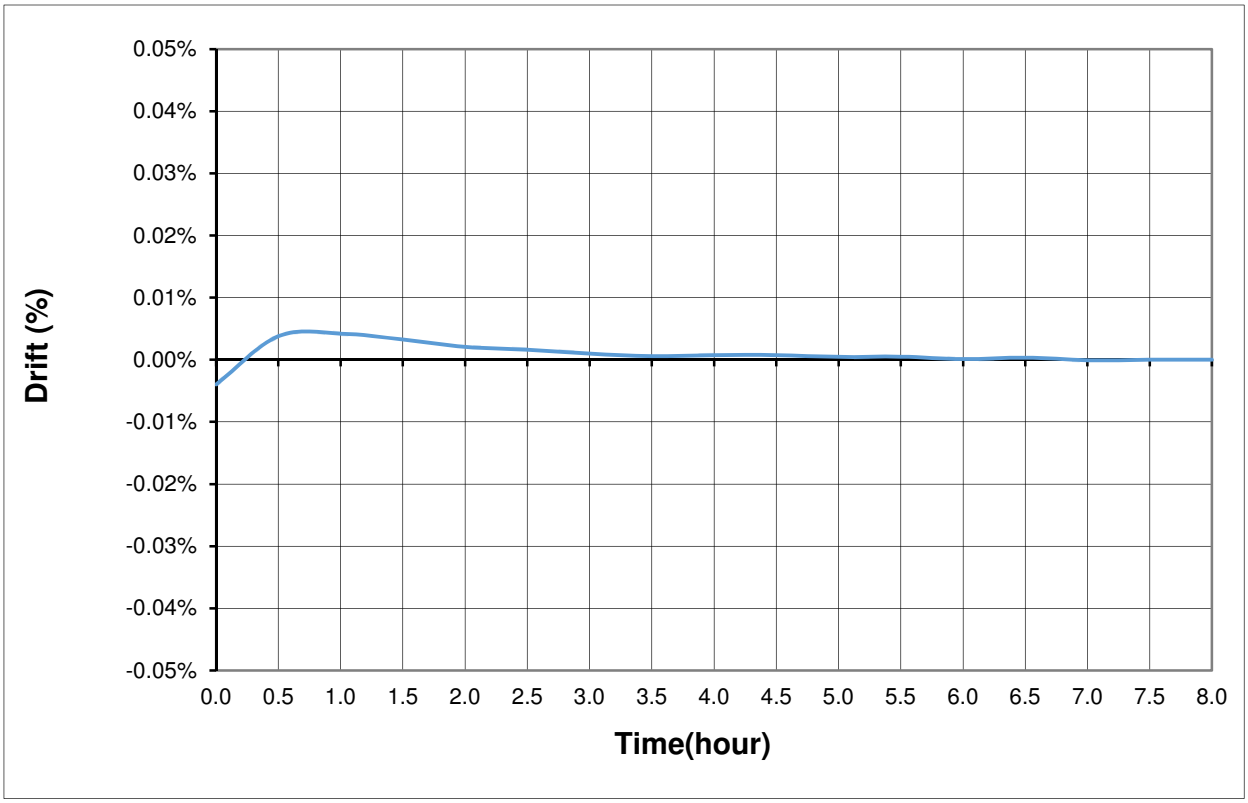
G60-28 C.C mode



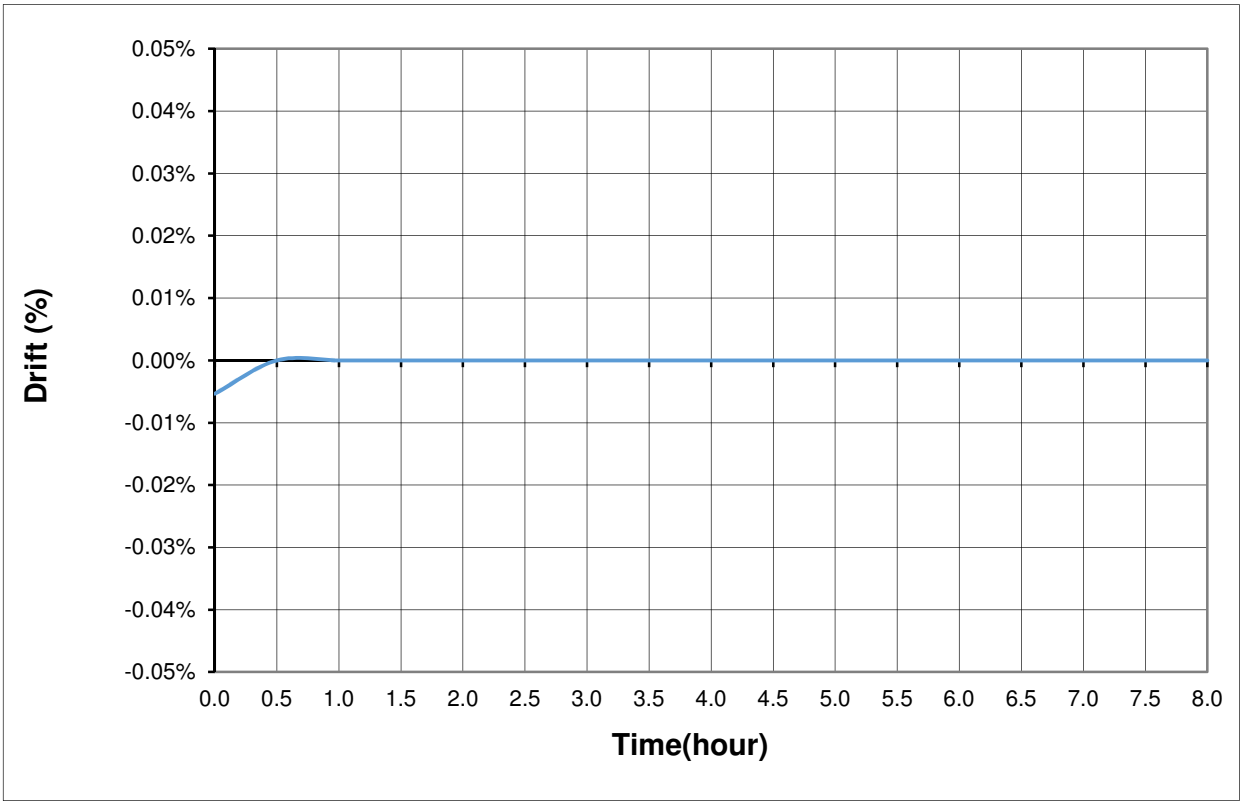
2.2 Warm up drift & stability

Conditions: Vin:100VAC
Vout: 100%
Iout: 100%
Ta = 25℃

G150-11.2 C.V mode



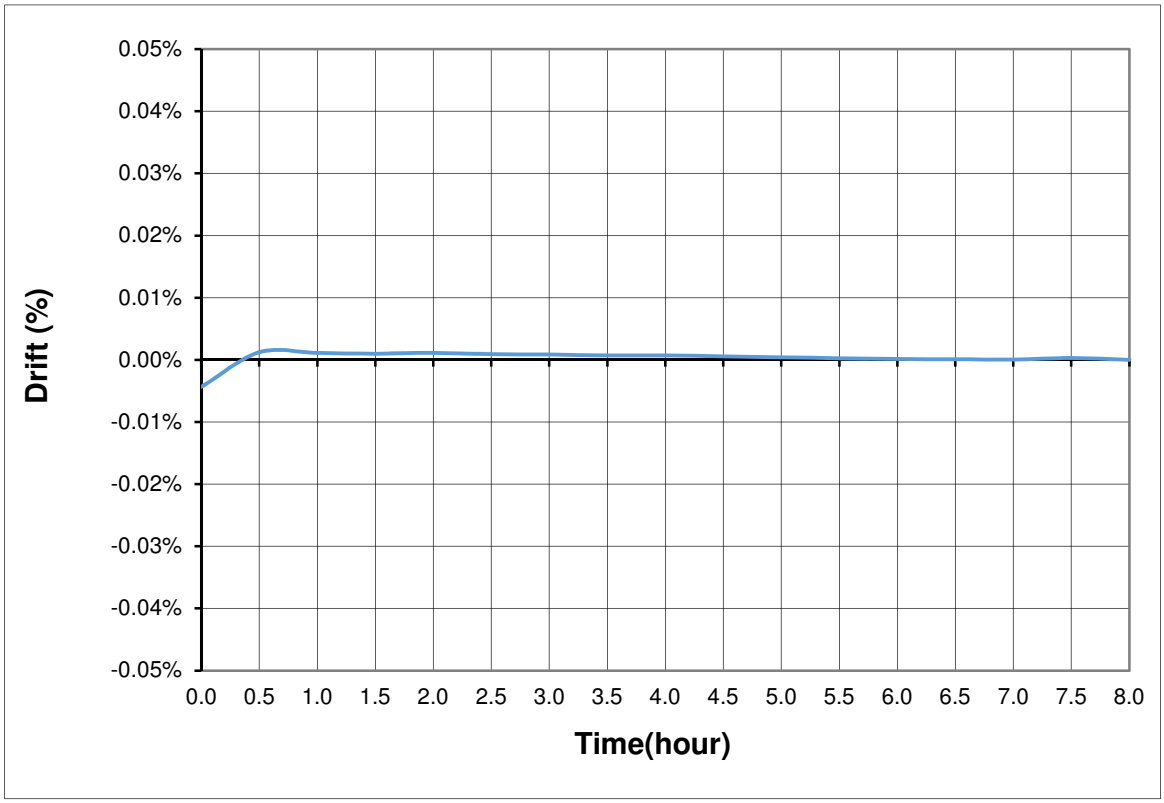
G150-11.2 C.C mode



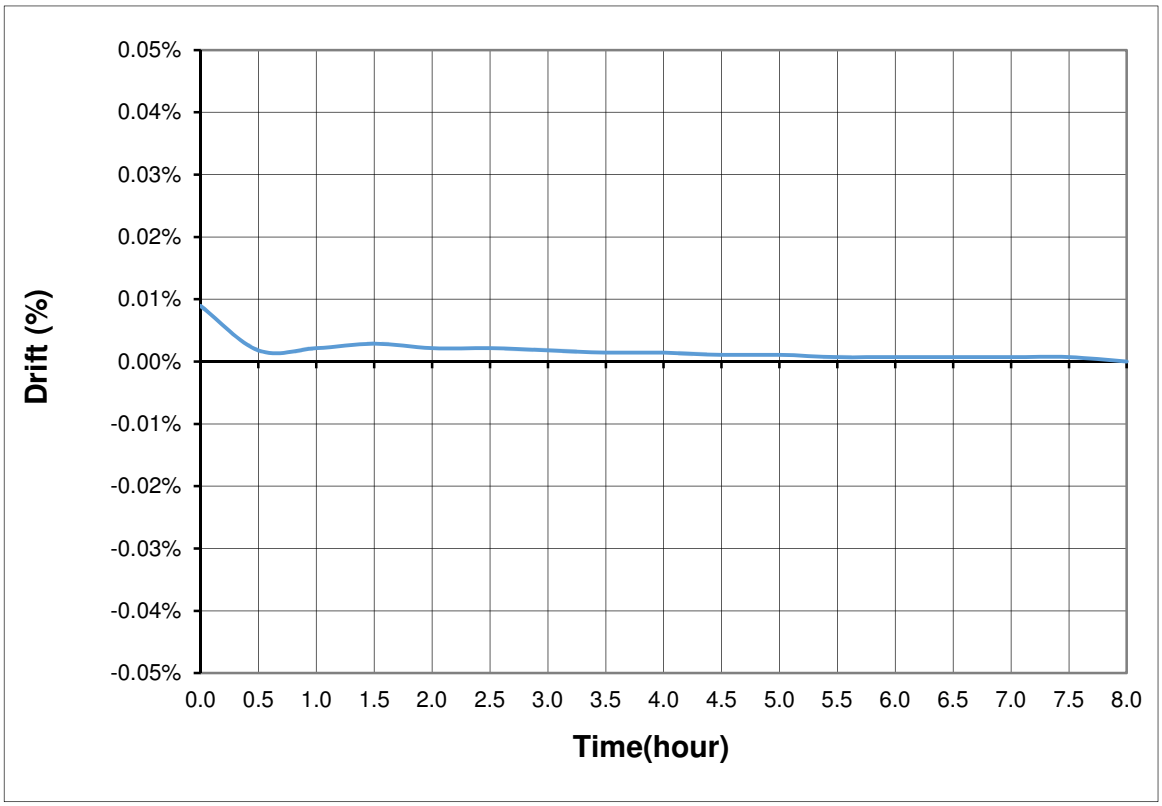
2.2 Warm up drift & stability

Conditions: Vin:100VAC
Vout: 100%
Iout: 100%
Ta = 25℃

G600-2.8 C.V mode



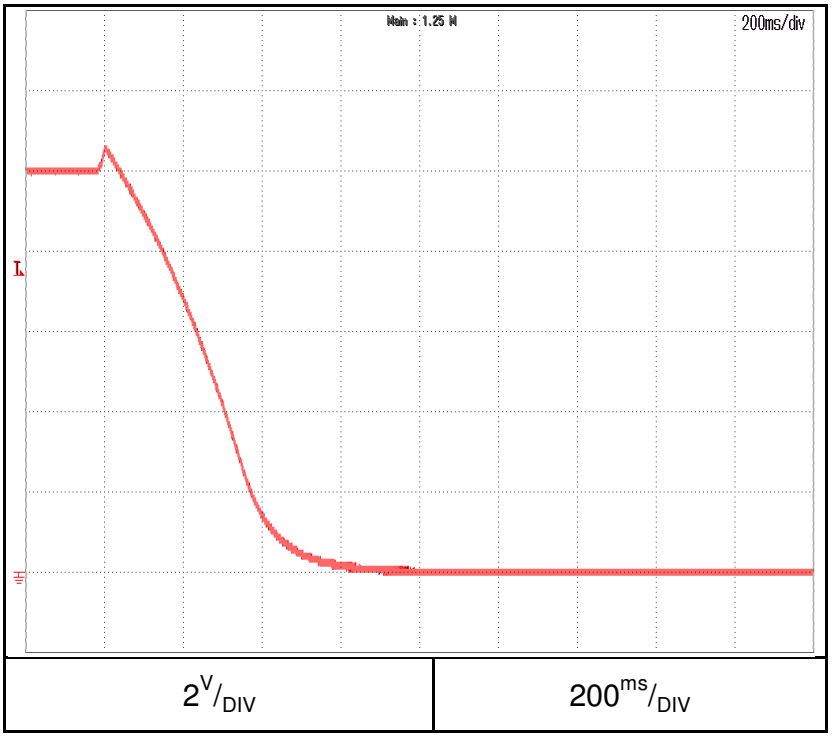
G600-2.8 C.C mode



2.3 Over voltage protection (OVP) characteristic

Conditions: Vin:100VAC
Iout: 0%
Ta = 25℃

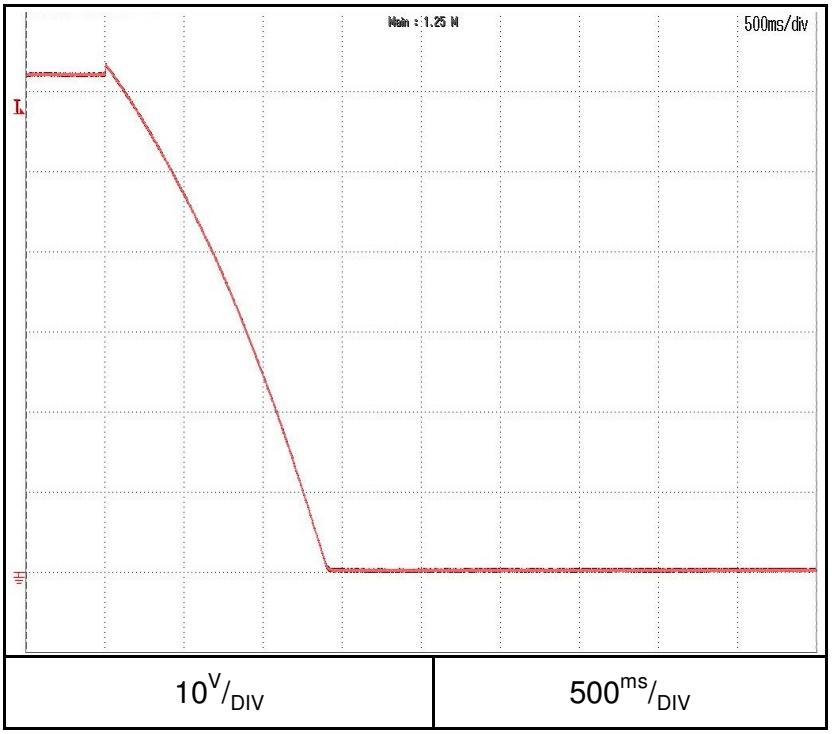
G10-170



2V/DIV	200ms/DIV

OVP setting:10.5V

G60-28



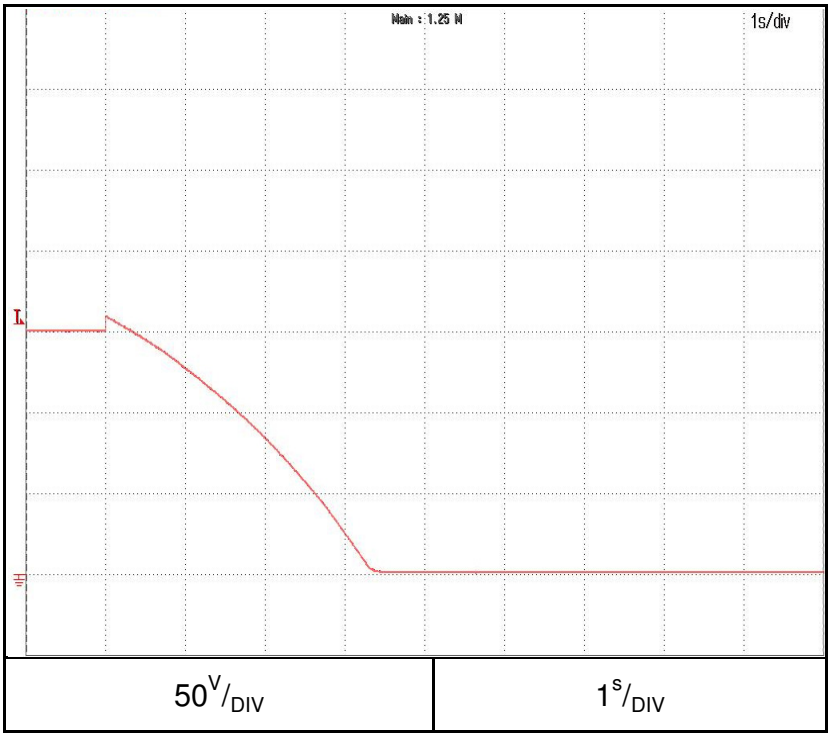
10V/DIV	500ms/DIV

OVP setting:63V

2.3 Over voltage protection (OVP) characteristic

Conditions: Vin:100VAC
Iout: 0%
Ta = 25℃

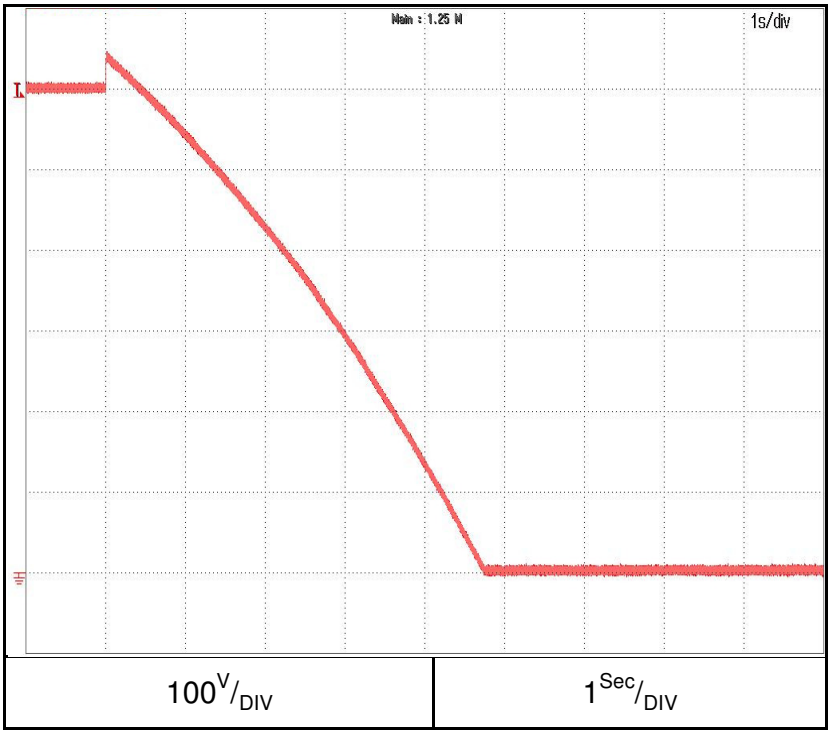
G150-11.2



50 V/DIV	1 s/DIV

OVP setting:157.5V

G600-2.8



100 V/DIV	1 Sec/DIV

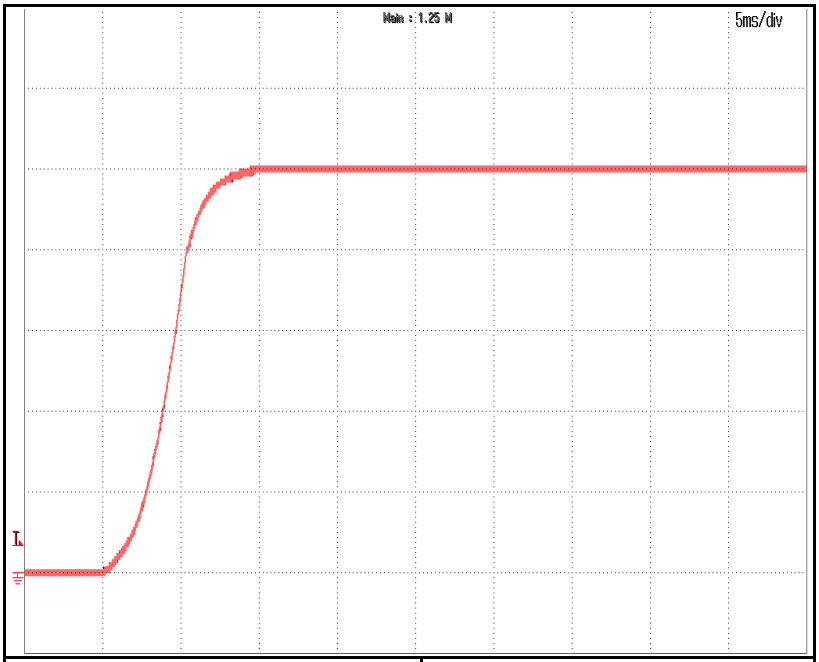
OVP setting:630V

2.4 ON/OFF Output rise characteristics

C.V mode

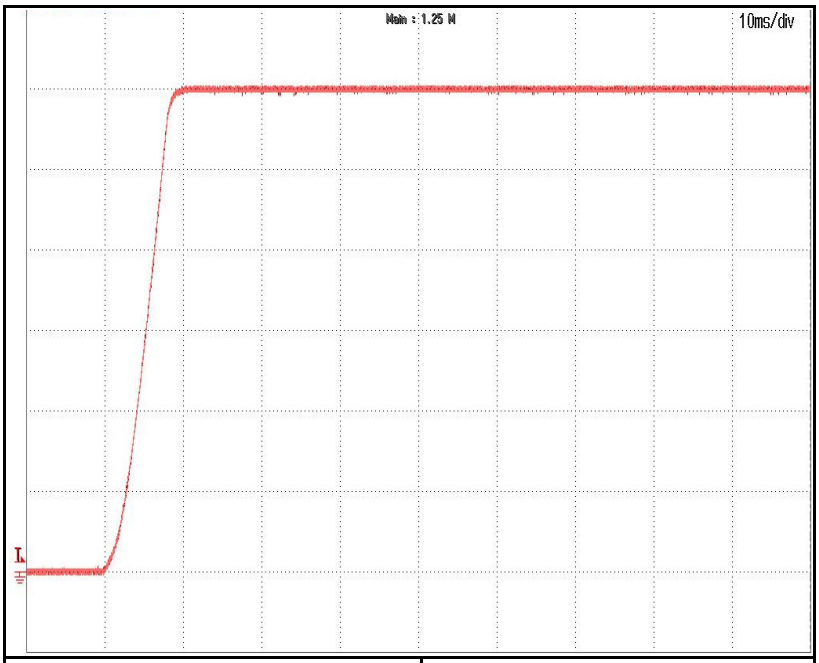
Conditions: Vin: 100VAC
Vout: 100%
Iout: 0%
Iset=105%
Ta = 25℃

G10-170



$2^{V}/_{DIV}$	$5^{ms}/_{DIV}$

G60-28



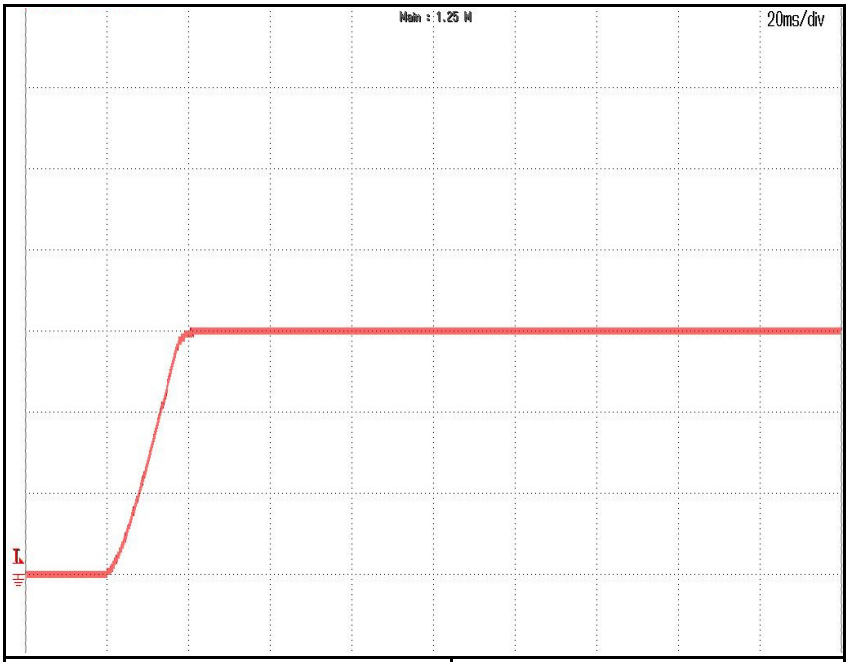
$10^{V}/_{DIV}$	$10^{ms}/_{DIV}$

2.4 ON/OFF Output rise characteristics

C.V mode

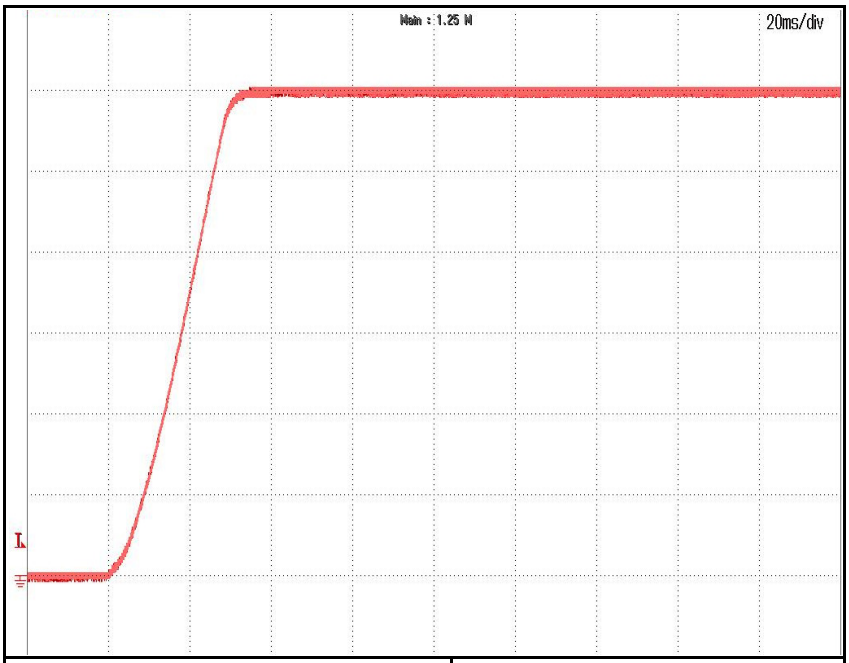
Conditions: Vin: 100VAC
Vout: 100%
Iout: 0%
Iset=105%
Ta = 25℃

G150-11.2



50 V/DIV	20 ms/DIV

G600-2.8



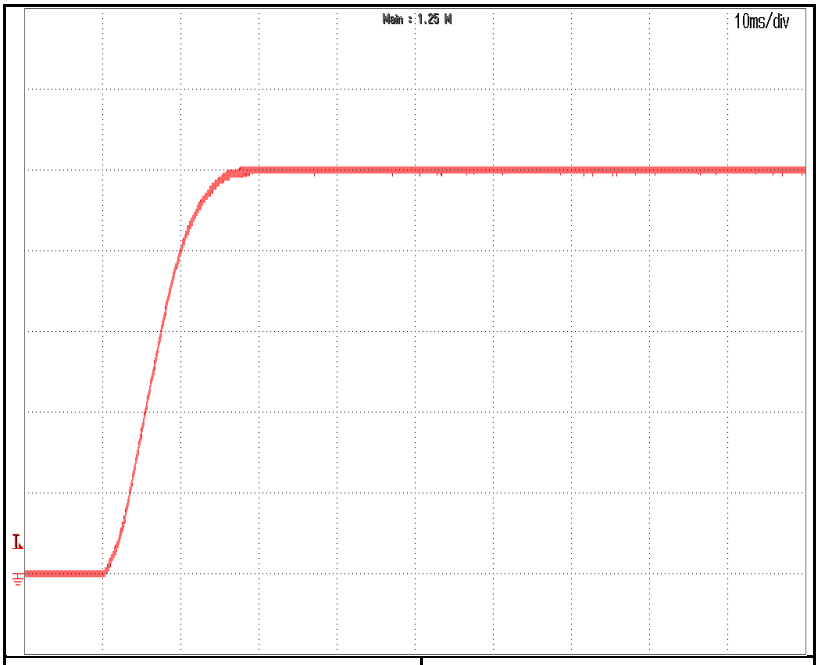
100 V/DIV	20 ms/DIV

2.4 ON/OFF Output rise characteristics

C.V mode

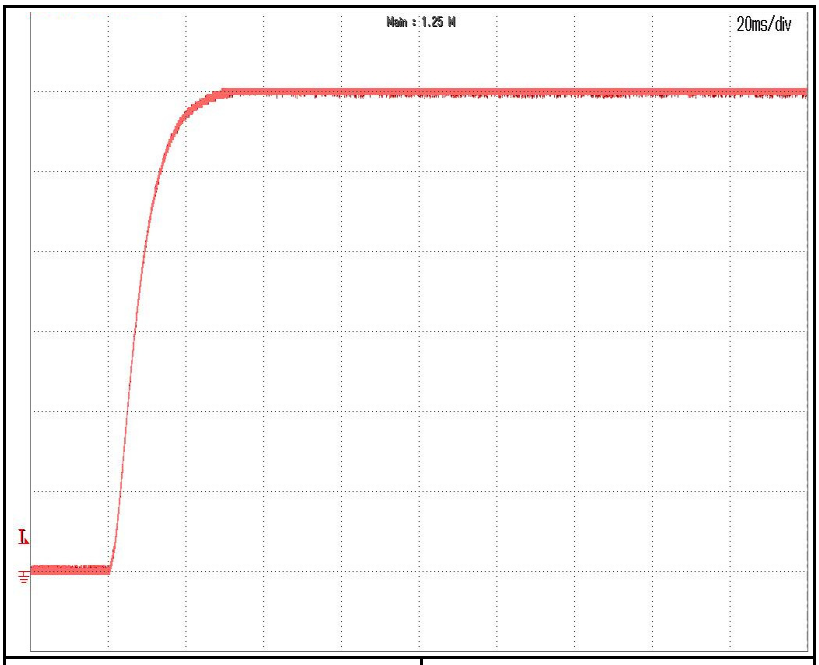
Conditions: Vin: 100VAC
Vout: 100%
Iout: 100%
Iset=105%
Load: CR
Ta = 25℃

G10-170



2V/DIV	10ms/DIV

G60-28



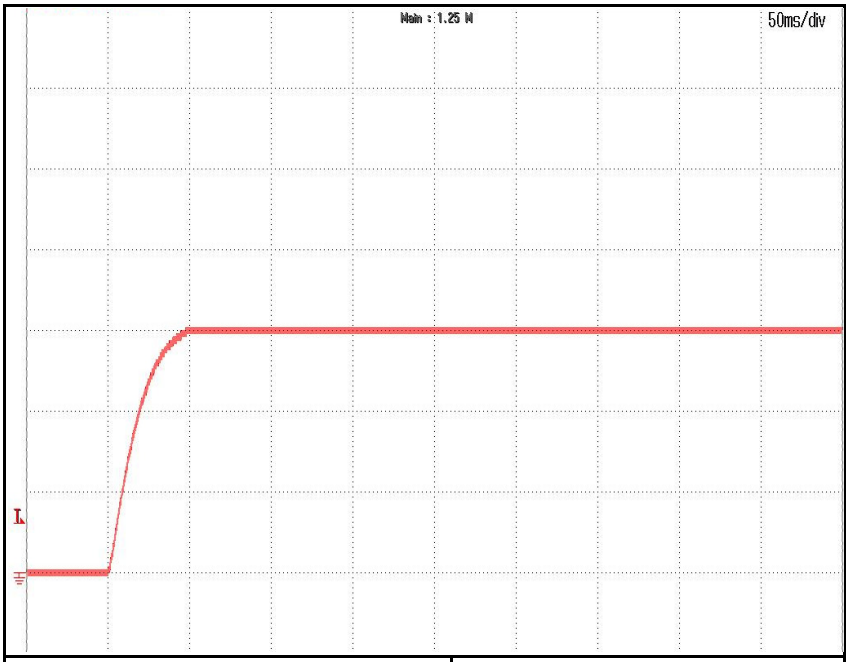
10V/DIV	20ms/DIV

2.4 ON/OFF Output rise characteristics

C.V mode

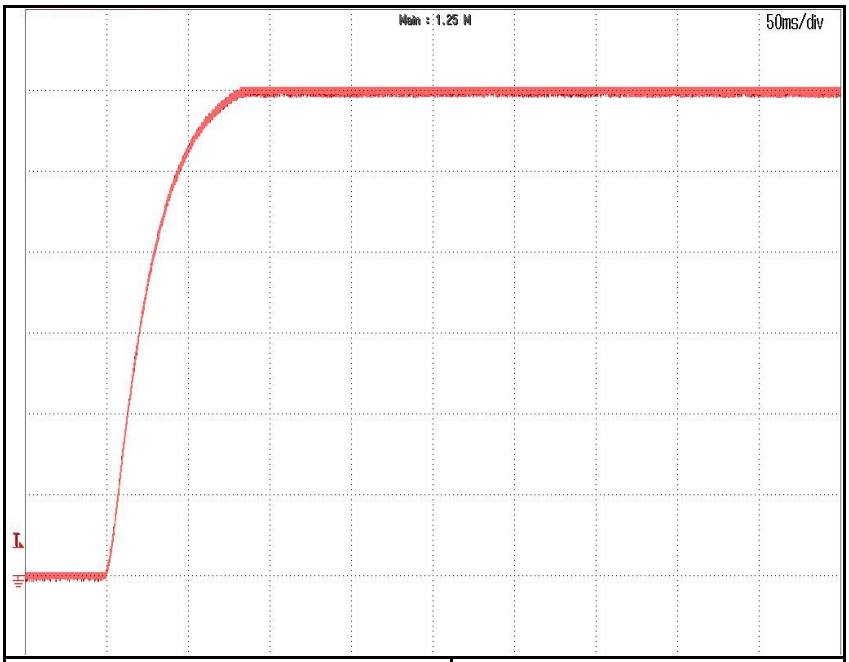
Conditions: Vin: 100VAC
Vout: 100%
Iout: 100%
Iset=105%
Load: CR
Ta = 25℃

G150-11.2



50 V/DIV	50 ms/DIV

G600-2.8



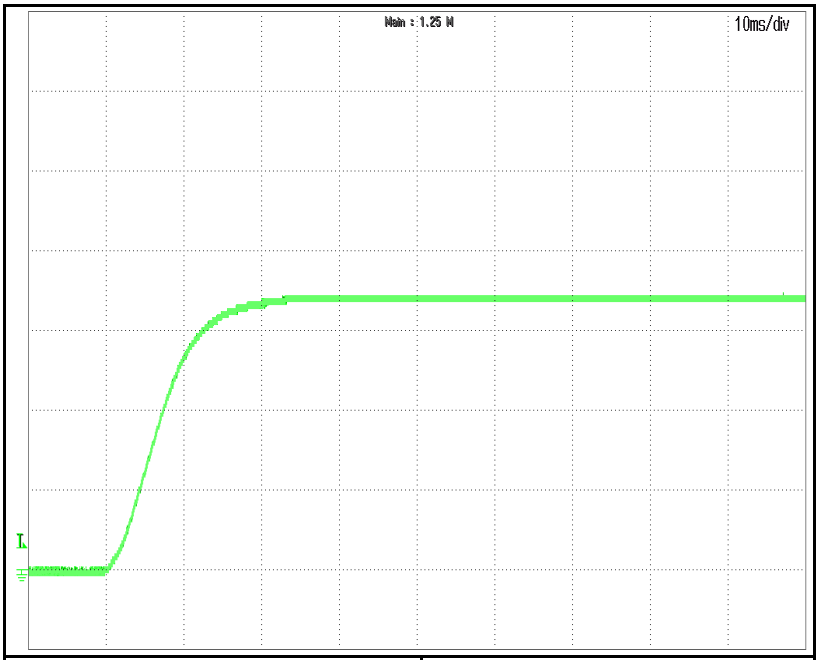
100 V/DIV	50 ms/DIV

2.4 ON/OFF Output rise characteristics

C.C mode

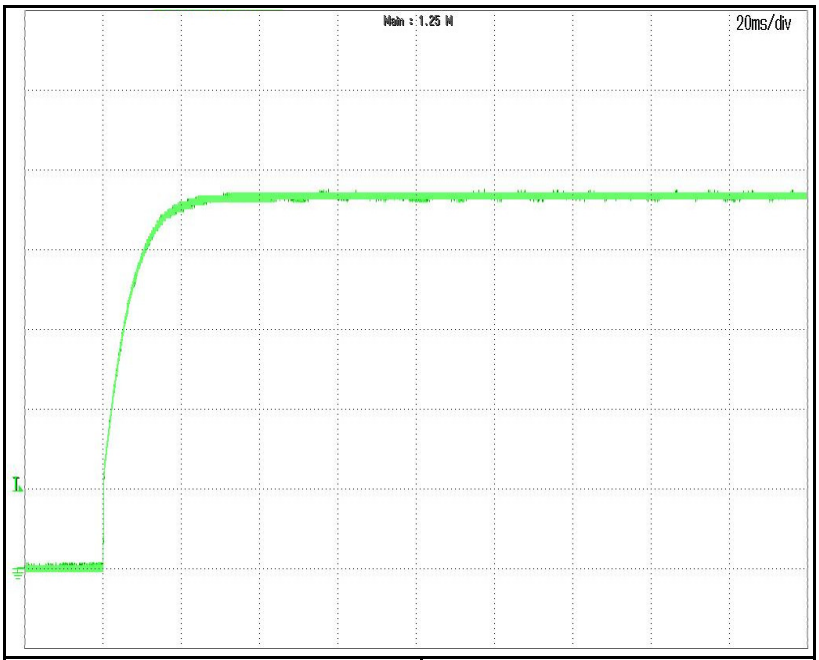
Conditions: Vin: 100VAC
Vout: 100%
Iout: 100%
Vset=105%
Load: CR
Ta = 25℃

G10-170



$50^{A}/_{DIV}$	$10^{ms}/_{DIV}$

G60-28



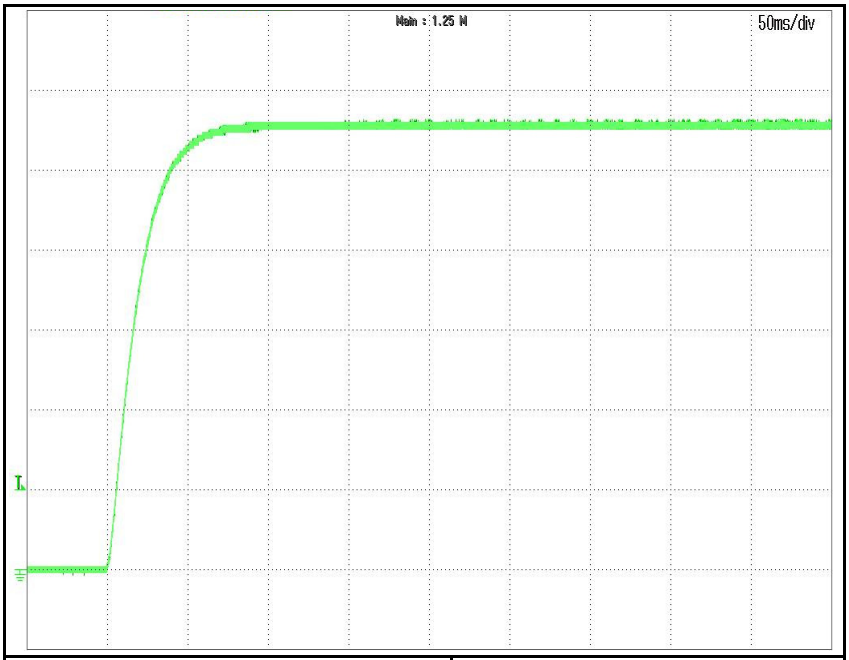
$6^{A}/_{DIV}$	$20^{ms}/_{DIV}$

2.4 ON/OFF Output rise characteristics

C.C mode

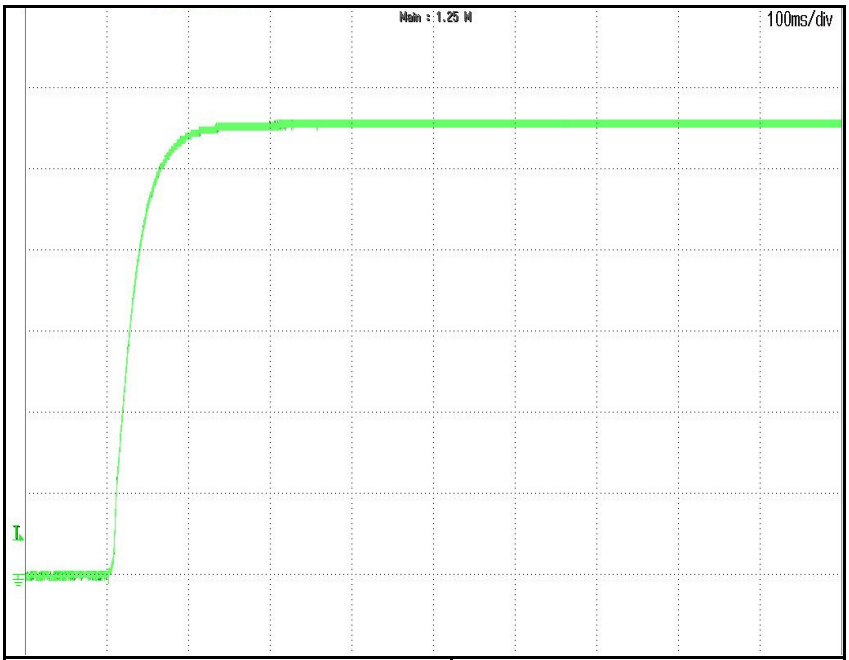
Conditions: Vin: 100VAC
Vout: 100%
Iout: 100%
Vset=105%
Load: CR
Ta = 25℃

G150-11.2



$2^{A}/_{DIV}$	$50^{ms}/_{DIV}$

G600-2.8



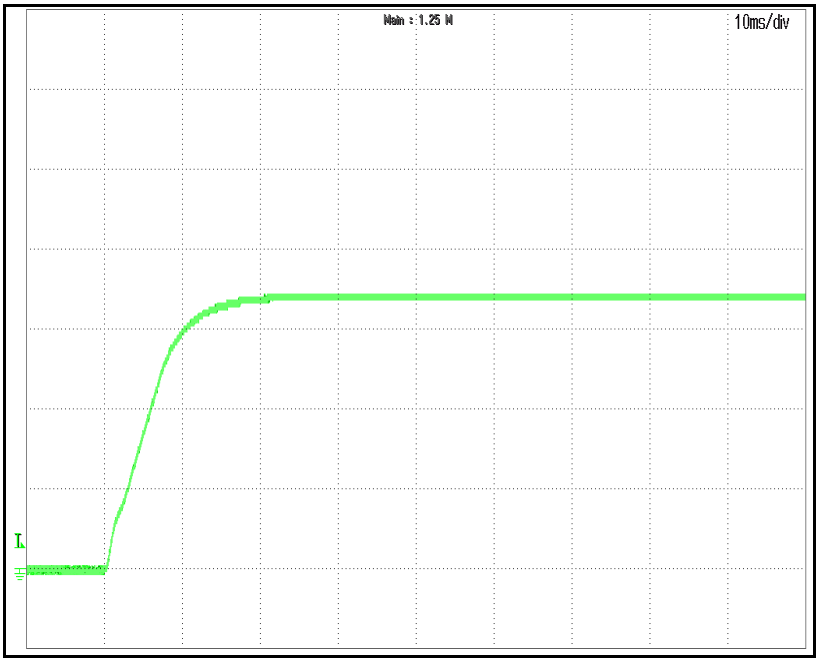
$500^{mA}/_{DIV}$	$100^{ms}/_{DIV}$

2.4 ON/OFF Output rise characteristics

C.C mode

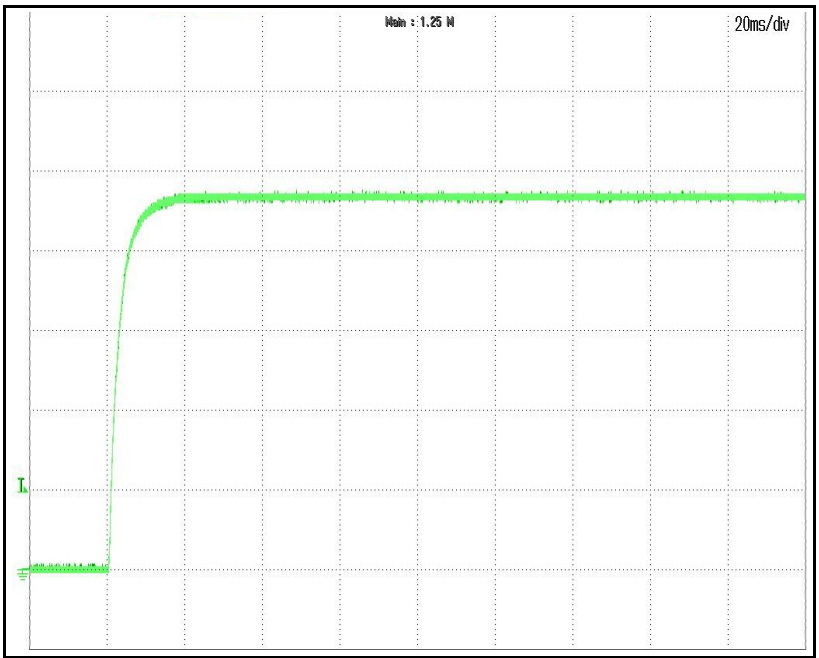
Conditions: Vin: 100VAC
Iout: 100%
Vset=105%
shorted output
Ta = 25℃

G10-170



$50^{A}/_{DIV}$	$10^{ms}/_{DIV}$

G60-28



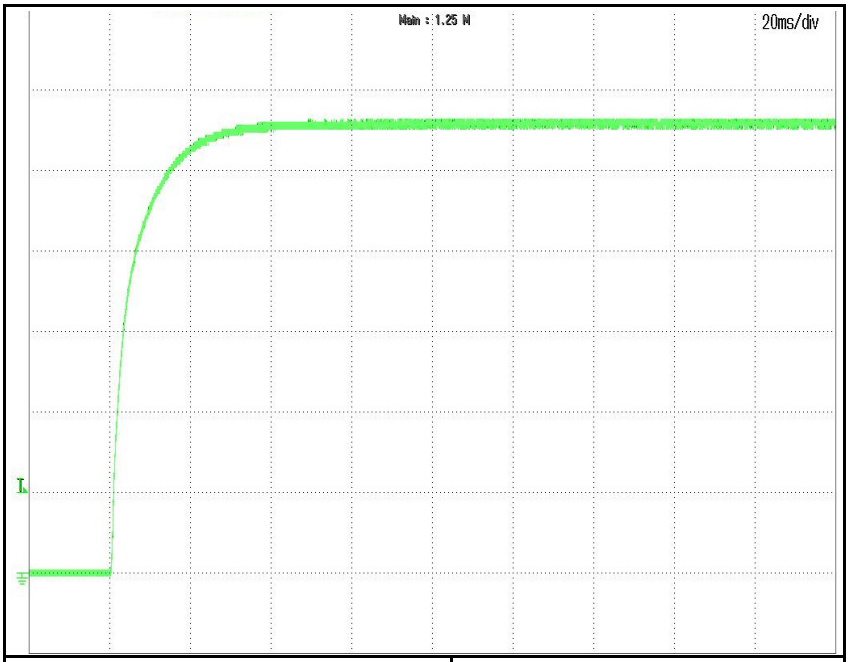
$6^{A}/_{DIV}$	$20^{ms}/_{DIV}$

2.4 ON/OFF Output rise characteristics

C.C mode

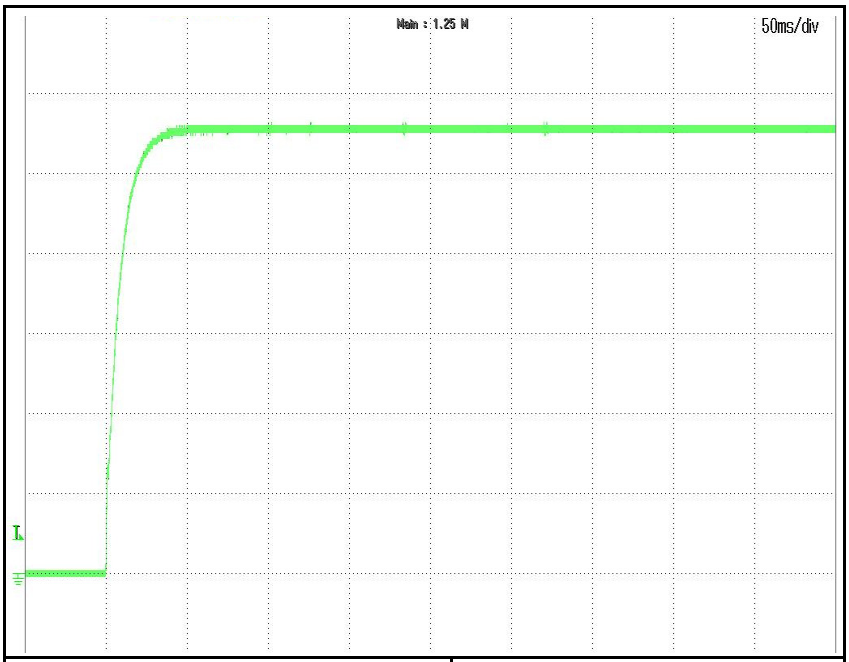
Conditions: Vin: 100VAC
Iout: 100%
Vset=105%
shorted output
Ta = 25℃

G150-11.2



$2^{A}/_{DIV}$	$20^{ms}/_{DIV}$

G600-2.8



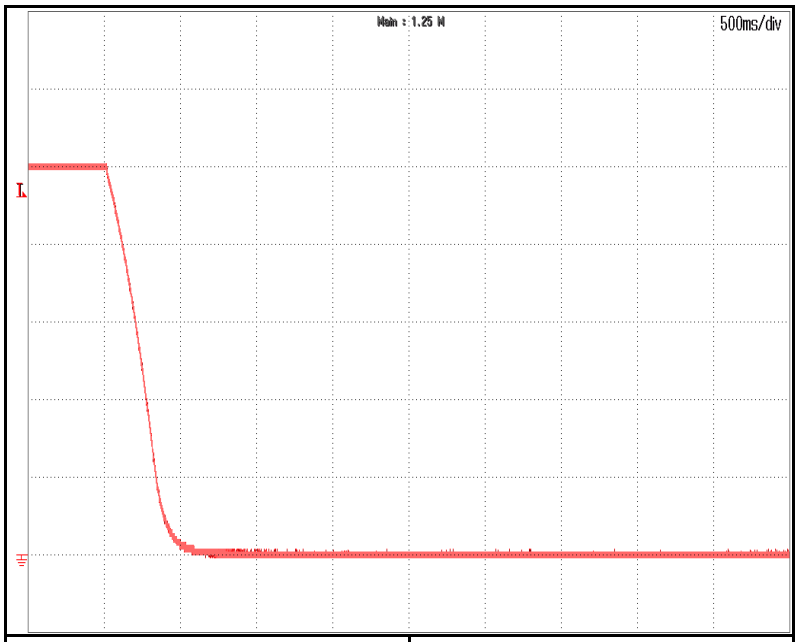
$500^{mA}/_{DIV}$	$50^{ms}/_{DIV}$

2.5 ON/OFF Output fall characteristics

C.V mode

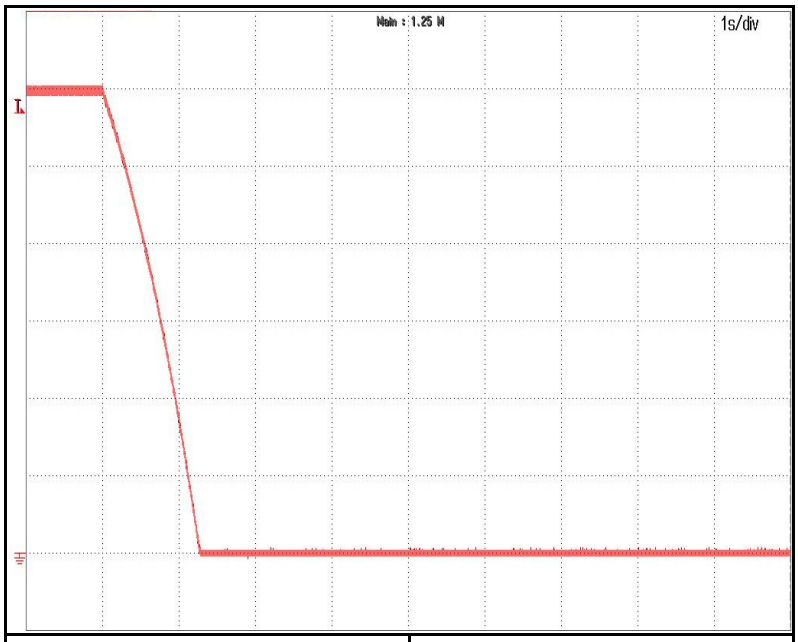
Conditions: Vin: 100VAC
Vout: 100%
Iout: 0%
Ta = 25℃

G10-170



$2^{V}/_{DIV}$	$500^{ms}/_{DIV}$

G60-28



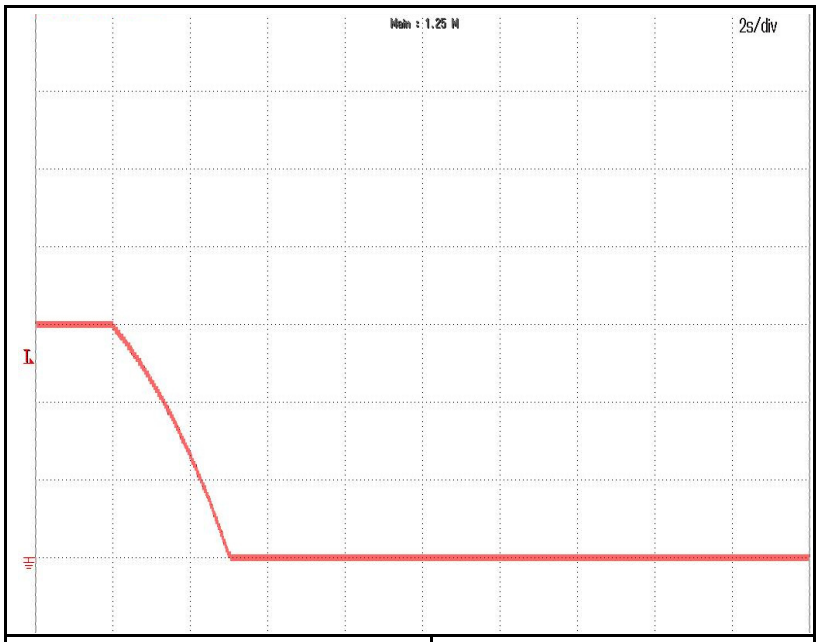
$10^{V}/_{DIV}$	$1^{Sec}/_{DIV}$

2.5 ON/OFF Output fall characteristics

C.V mode

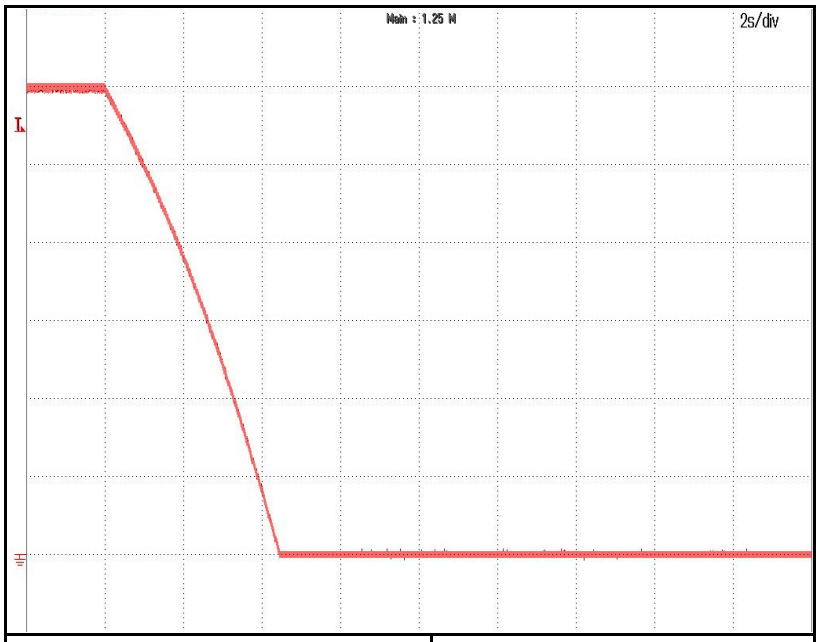
Conditions: Vin: 100VAC
Vout: 100%
Iout: 0%
Ta = 25℃

G150-11.2



50V/DIV	2s/DIV

G600-2.8



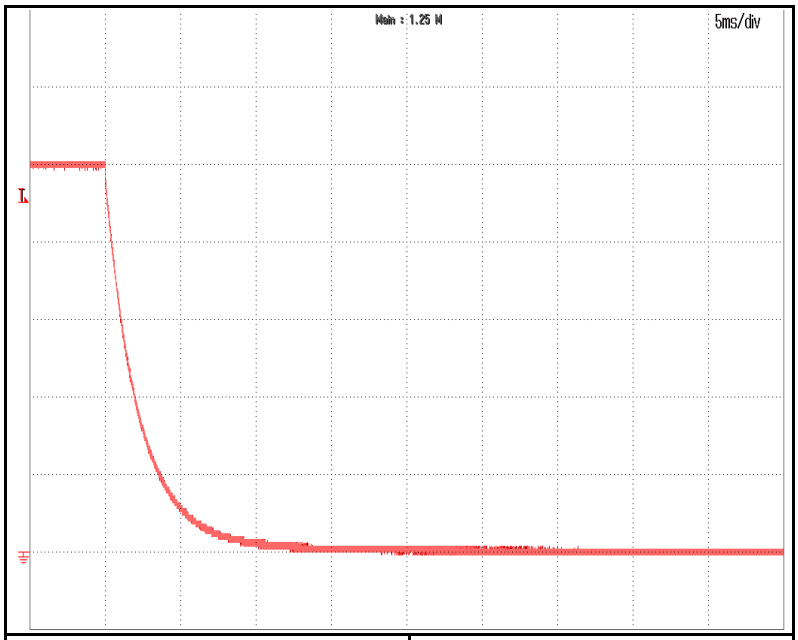
100V/DIV	2Sec/DIV

2.5 ON/OFF Output fall characteristics

C.V mode

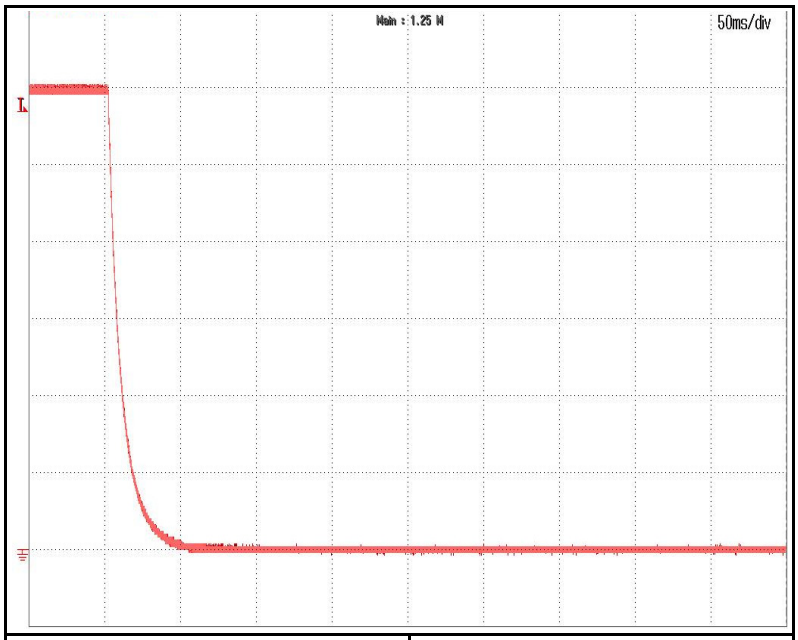
Conditions: Vin: 100VAC
Vout: 100%
Iout: 100%
Load: CR
Ta = 25℃

G10-170



$2^{V}/_{DIV}$	$5^{ms}/_{DIV}$

G60-28



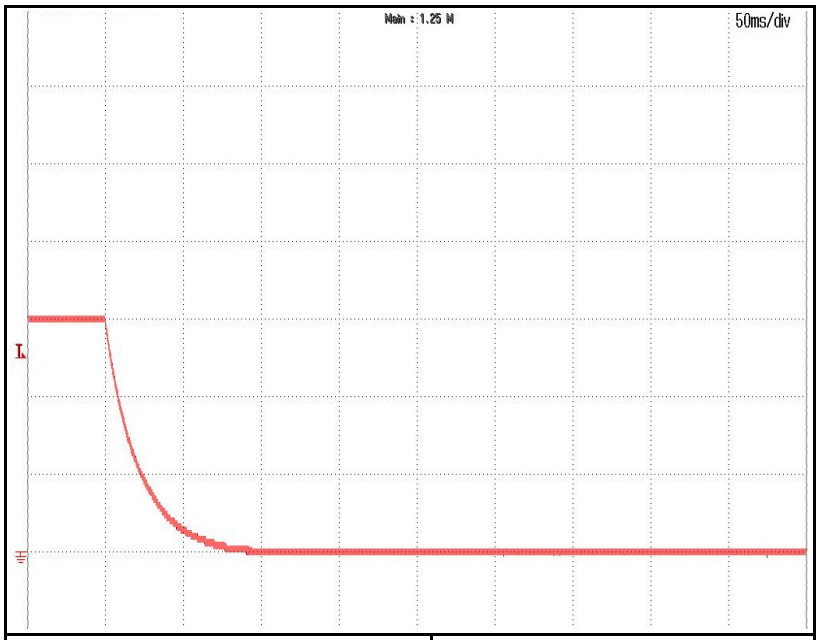
$10^{V}/_{DIV}$	$50^{ms}/_{DIV}$

2.5 ON/OFF Output fall characteristics

C.V mode

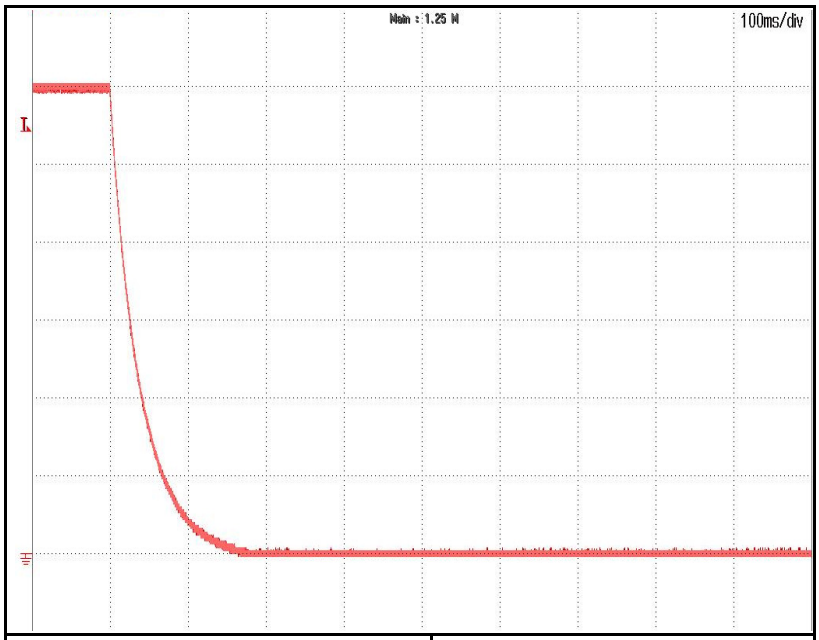
Conditions: Vin: 100VAC
Vout: 100%
Iout: 100%
Load: CR
Ta = 25℃

G150-11.2



$50^{V}/_{DIV}$	$50^{ms}/_{DIV}$

G600-2.8



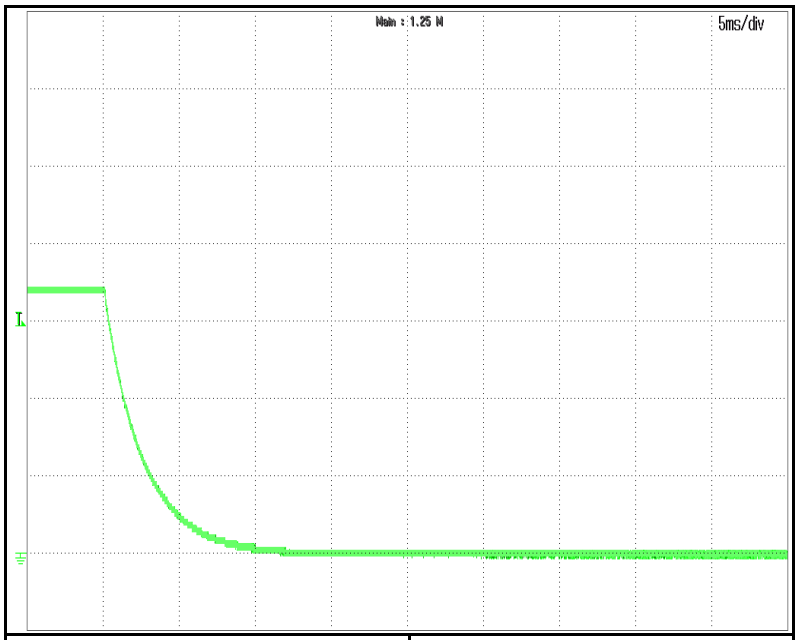
$100^{V}/_{DIV}$	$100^{ms}/_{DIV}$

2.5 ON/OFF Output fall characteristics

C.C mode

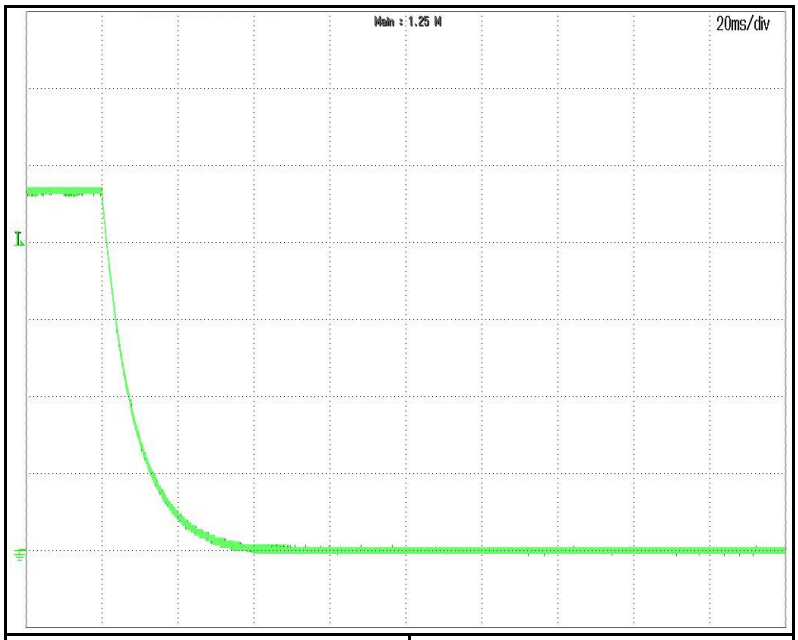
Conditions: Vin: 100VAC
Vout: 100%
Iout: 100%
Load: CR
Ta = 25℃

G10-170



$50^{A}/_{DIV}$	$5^{ms}/_{DIV}$

G60-28



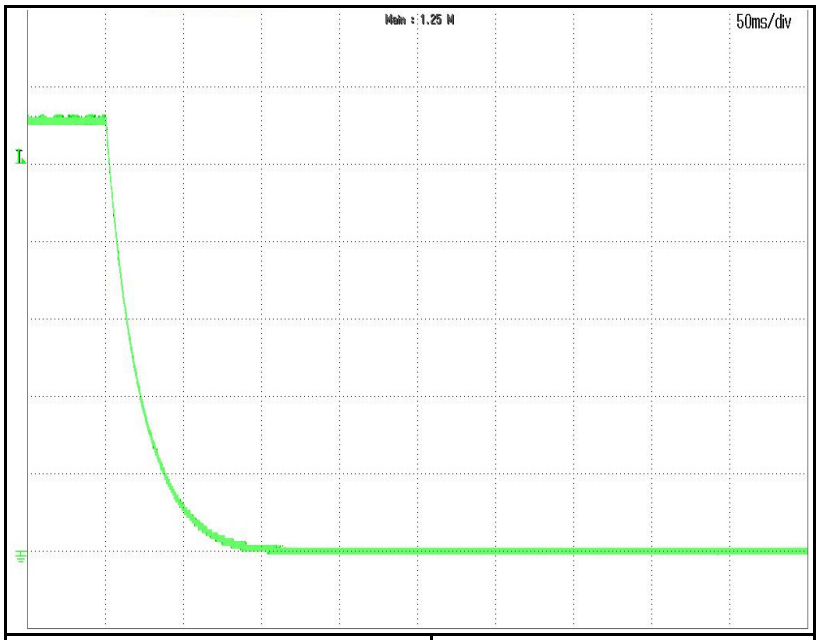
$6^{A}/_{DIV}$	$20^{ms}/_{DIV}$

2.5 ON/OFF Output fall characteristics

C.C mode

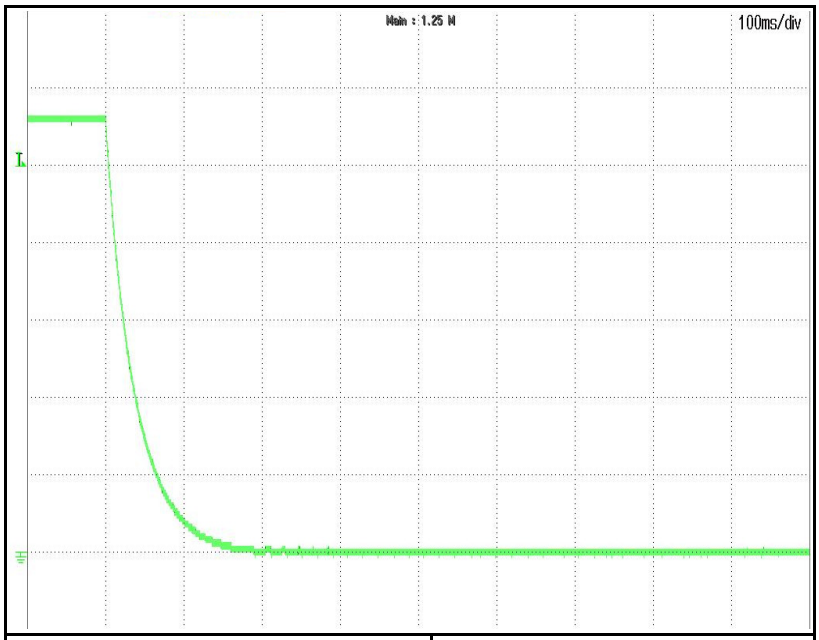
Conditions: Vin: 100VAC
Vout: 100%
Iout: 100%
Load: CR
Ta = 25℃

G150-11.2



$2^{A}/_{DIV}$	$50^{ms}/_{DIV}$

G600-2.8



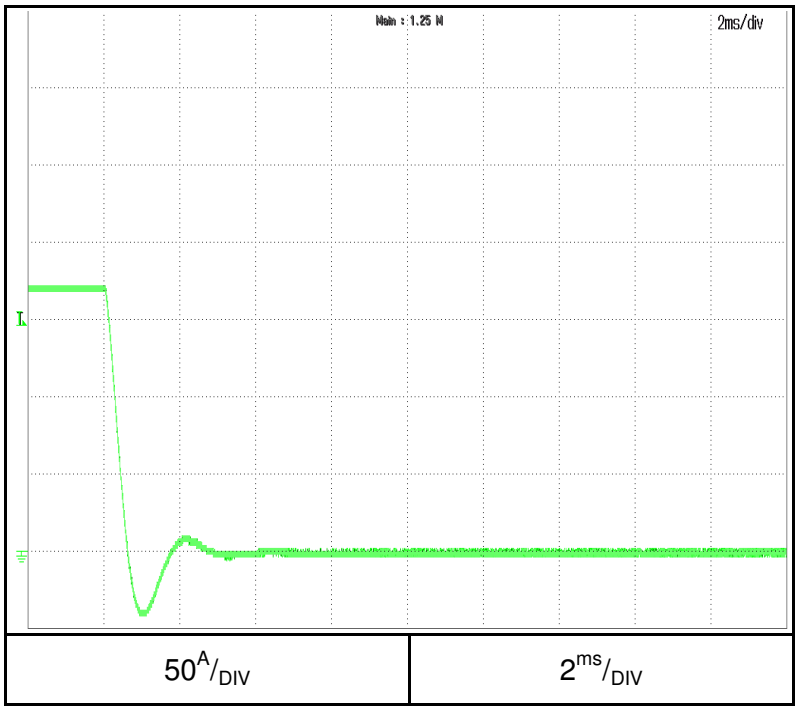
$500^{mA}/_{DIV}$	$100^{ms}/_{DIV}$

2.5 ON/OFF Output fall characteristics

C.C mode

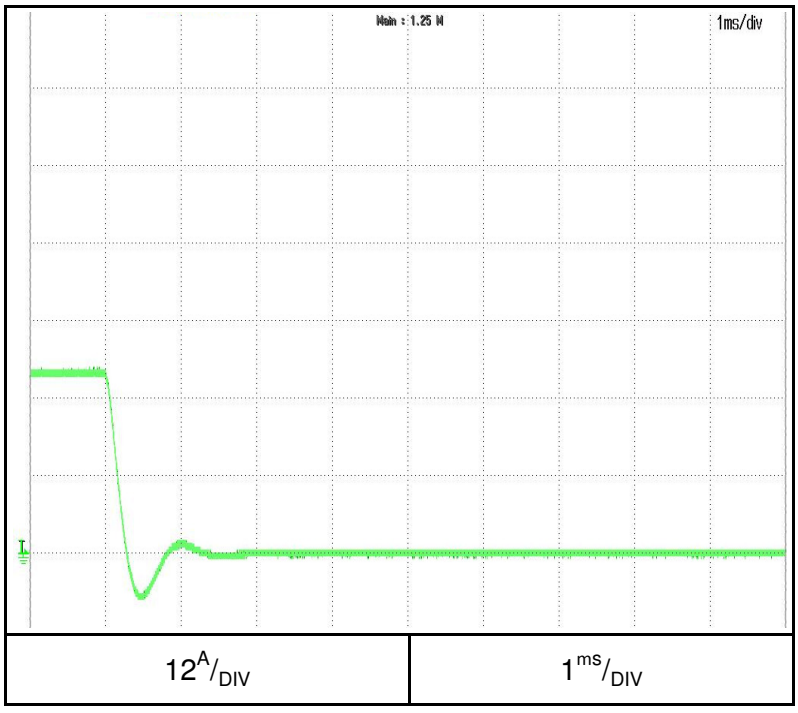
Conditions: Vin: 100VAC
Iout: 100%
shorted output
Ta = 25℃

G10-170



50 A/DIV	2 ms/DIV

G60-28



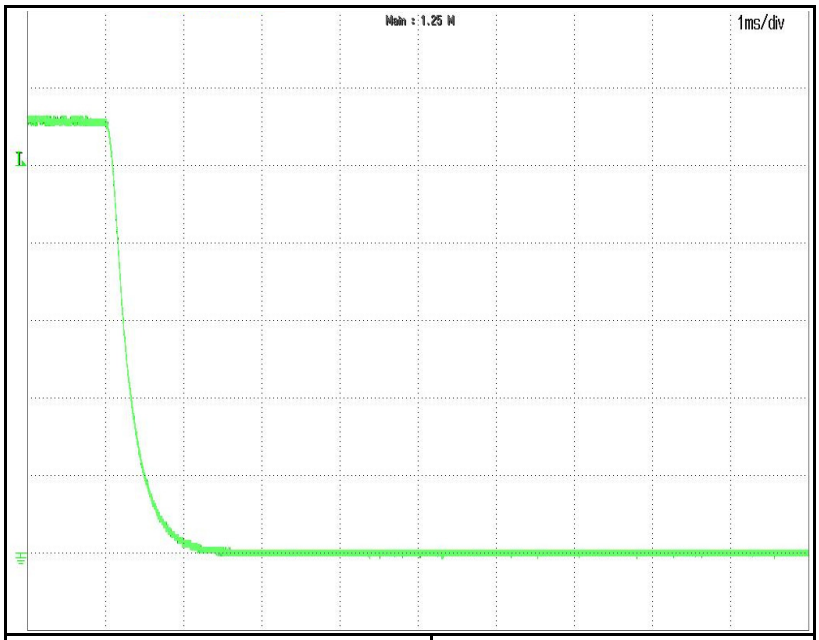
12 A/DIV	1 ms/DIV

2.5 ON/OFF Output fall characteristics

C.C mode

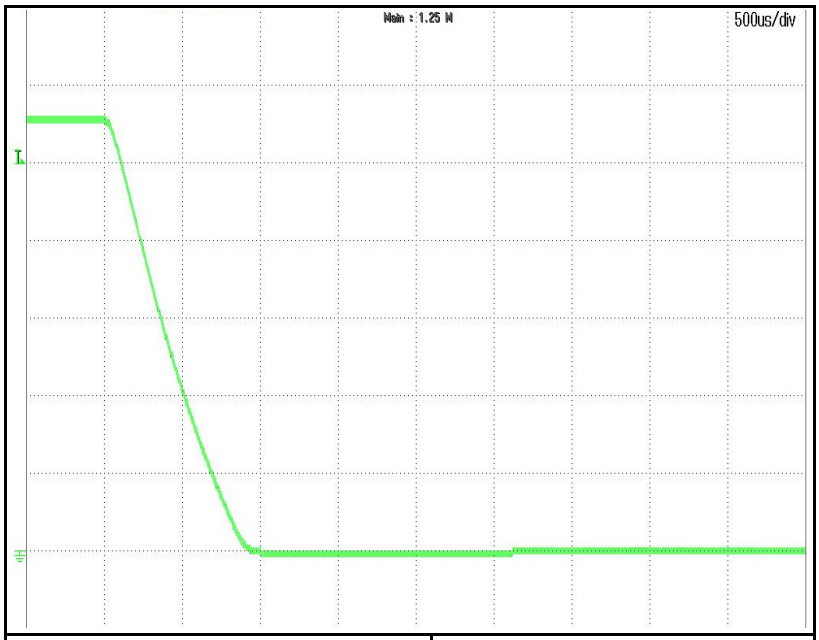
Conditions: Vin: 100VAC
Iout: 100%
shorted output
Ta = 25℃

G150-11.2



$2^{A}/_{DIV}$	$1^{ms}/_{DIV}$

G600-2.8



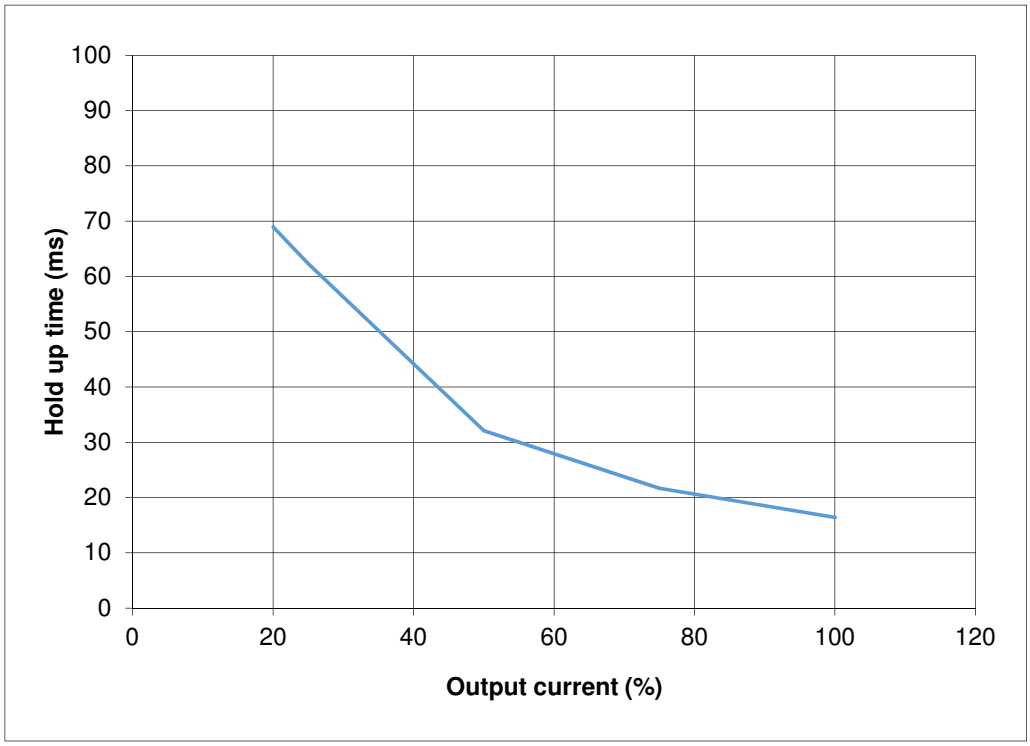
$500^{mA}/_{DIV}$	$500^{\mu s}/_{DIV}$

2.6 Holdup time characteristics

Conditions: Ta = 25℃
Vout:100%

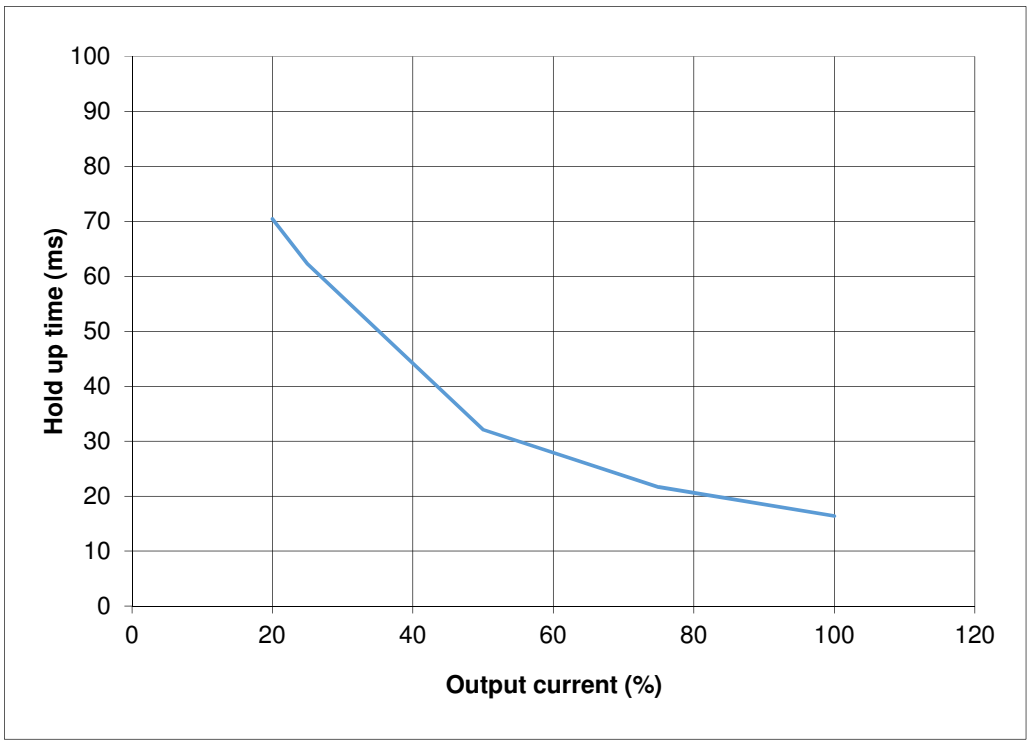
G10-170

Vin:100VAC



G10-170

Vin:200VAC

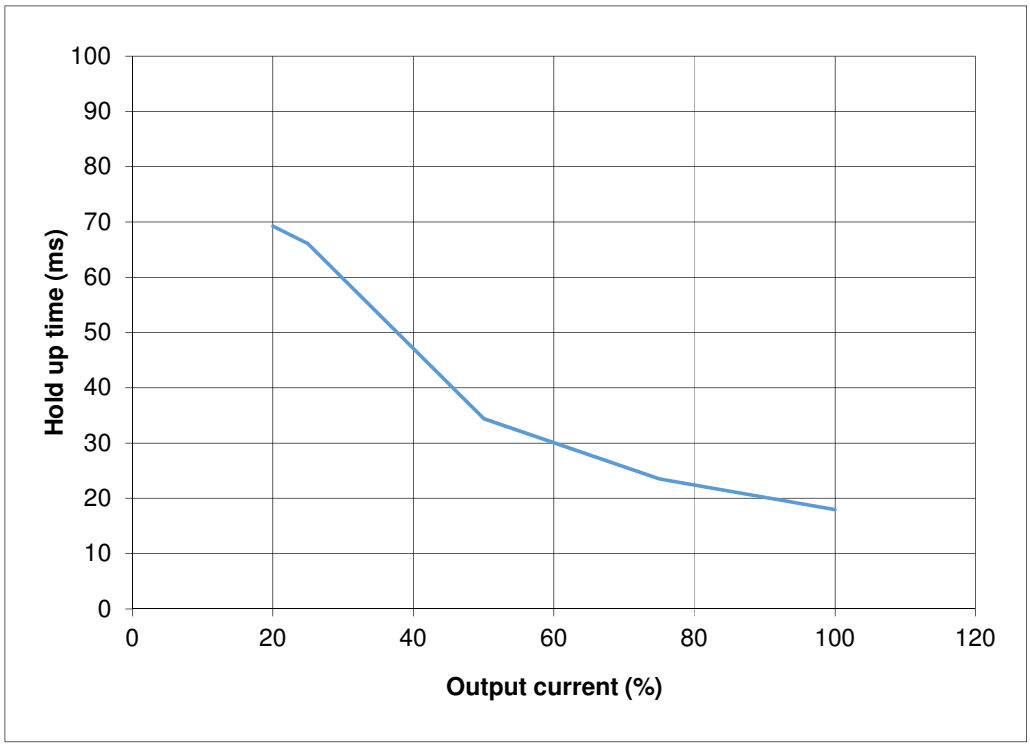


2.6 Holdup time characteristics

Conditions: Ta = 25℃
Vout:100%

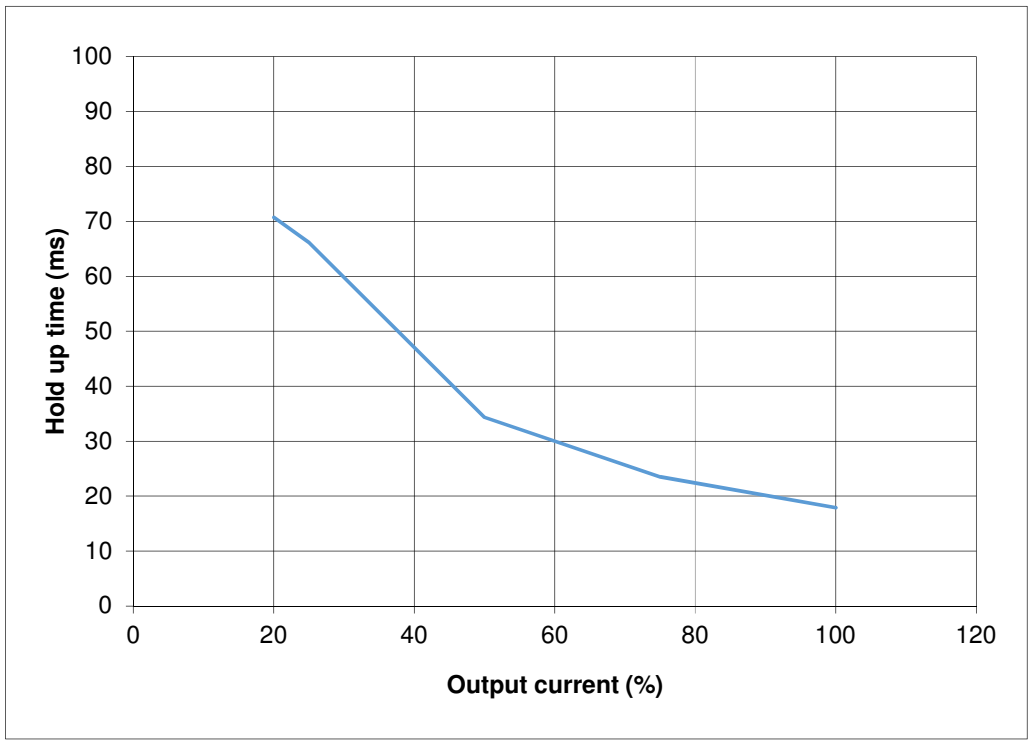
G60-28

Vin:100VAC



G60-28

Vin:200VAC

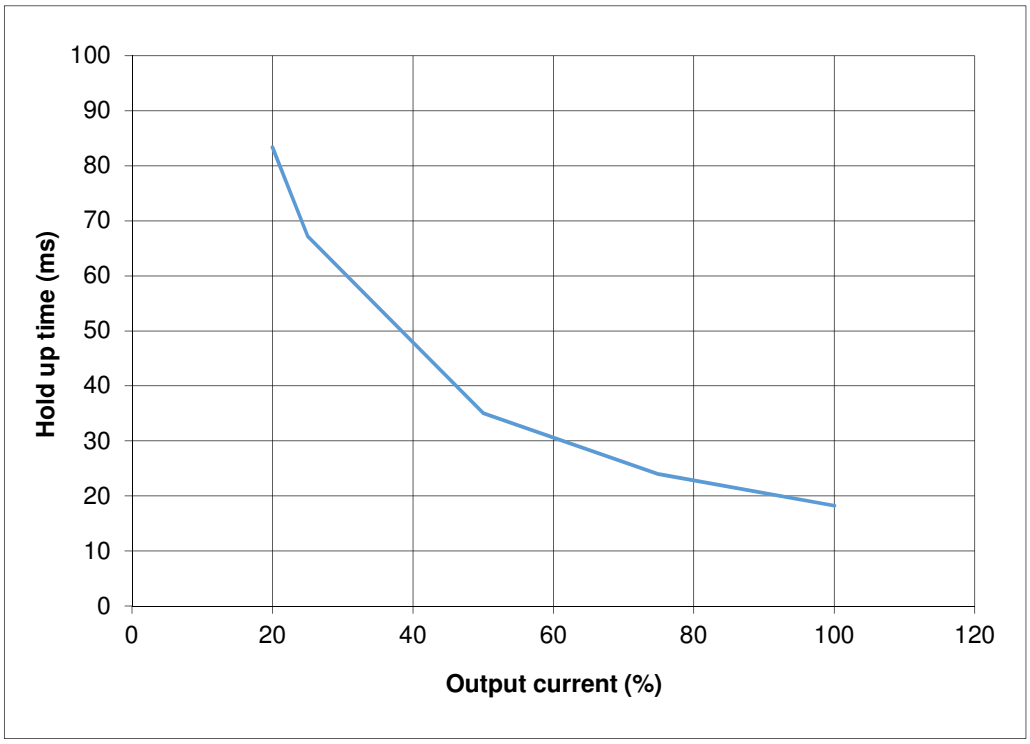


2.6 Holdup time characteristics

Conditions: Ta = 25℃
Vout:100%

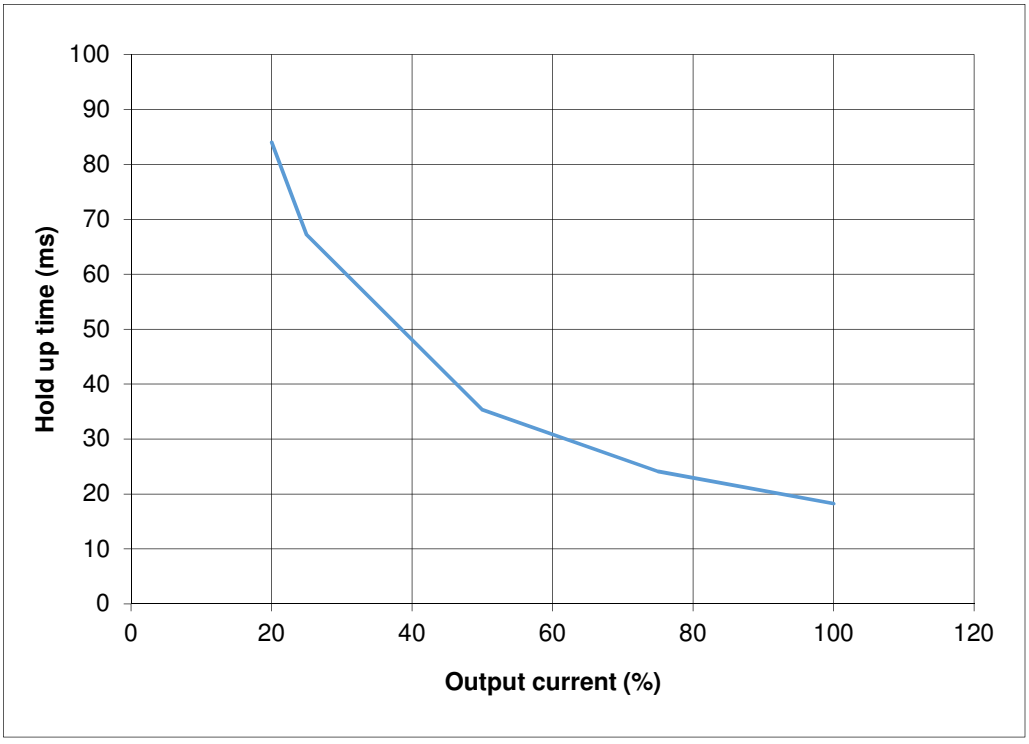
G150-11.2

Vin:100VAC



G150-11.2

Vin:200VAC

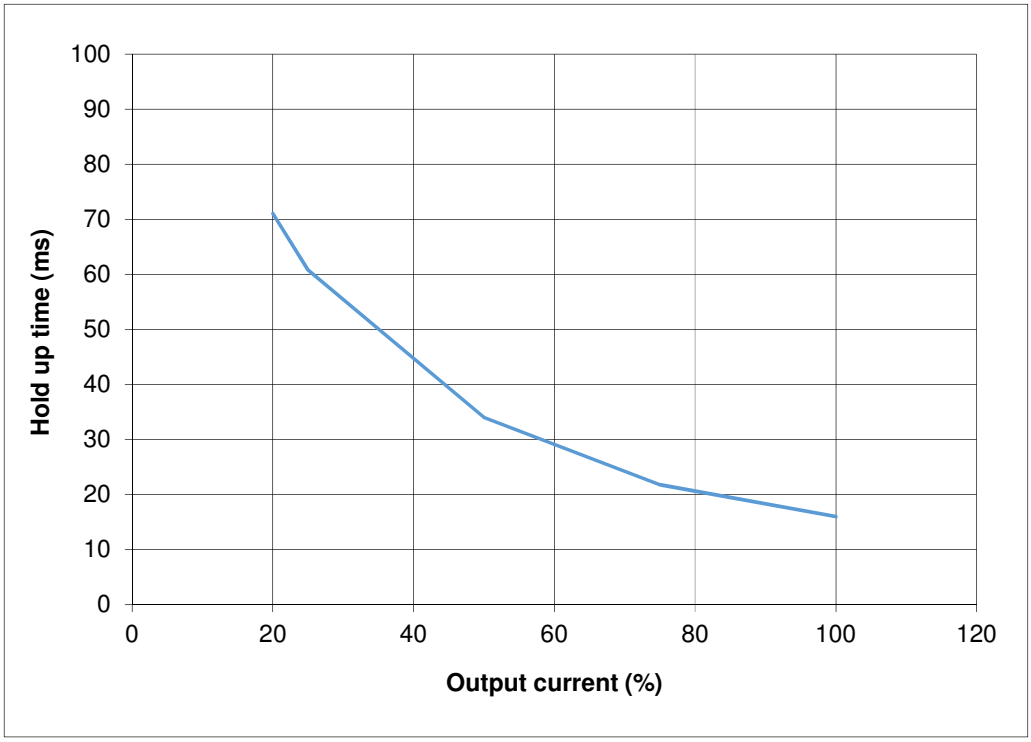


2.6 Holdup time characteristics

Conditions: Ta = 25℃
Vout:100%

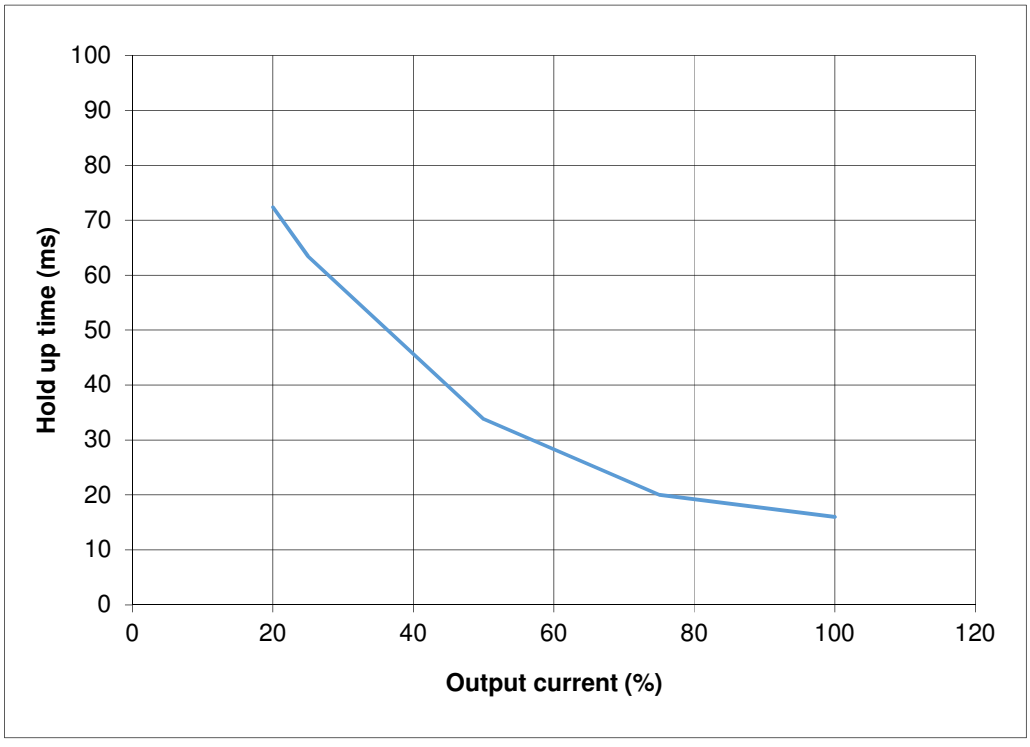
G600-2.8

Vin:100VAC



G600-2.8

Vin:200VAC



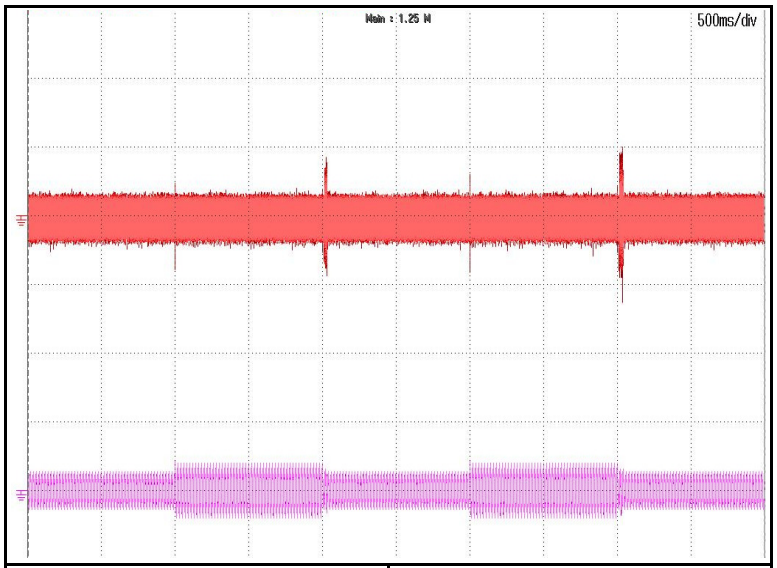
2.7 Dynamic line response characteristics

Ta = 25℃

C.V mode

G10-170

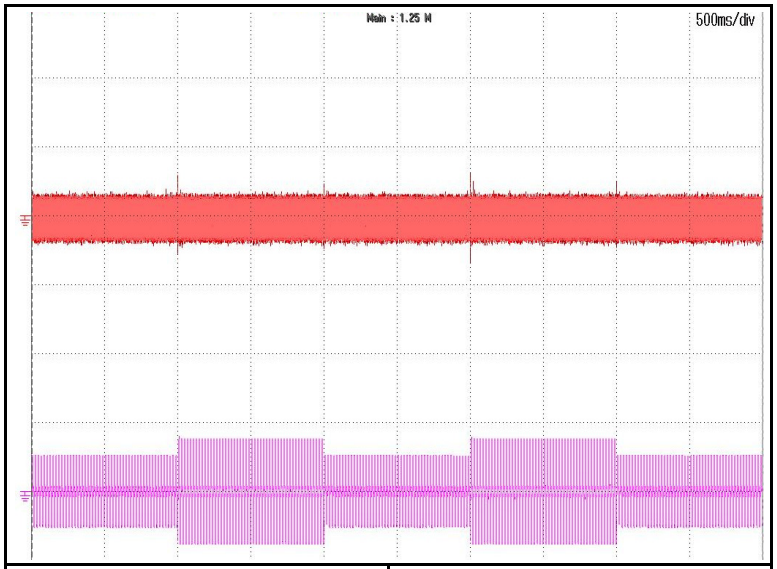
Conditions: Vout: 100%
Iout: 100%
Vin:85↔132V



Vout: 20$^{mv}/_{DIV}$	500$^{ms}/_{DIV}$
Vin: 500$^{v}/_{DIV}$	

G10-170

Conditions: Vout: 100%
Iout: 100%
Vin:170↔265V



Vout: 20$^{mv}/_{DIV}$	500$^{ms}/_{DIV}$
Vin: 500$^{v}/_{DIV}$	

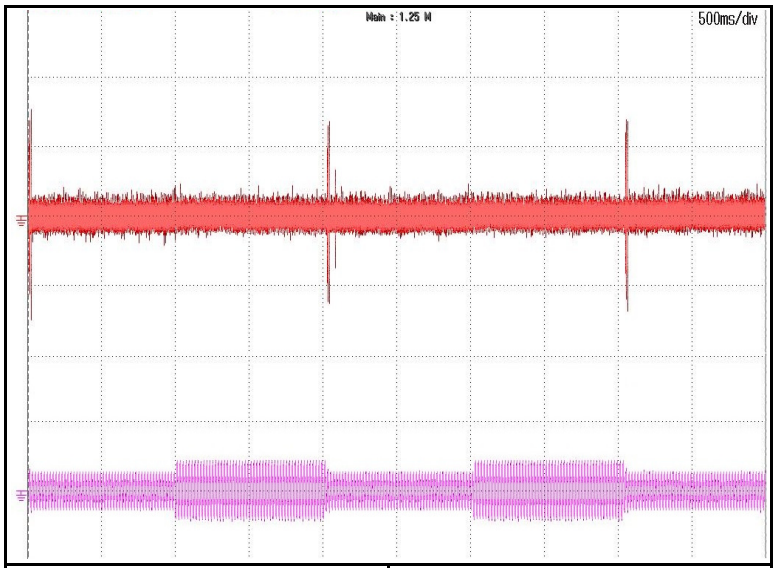
2.7 Dynamic line response characteristics

Ta = 25℃

C.V mode

G60-28

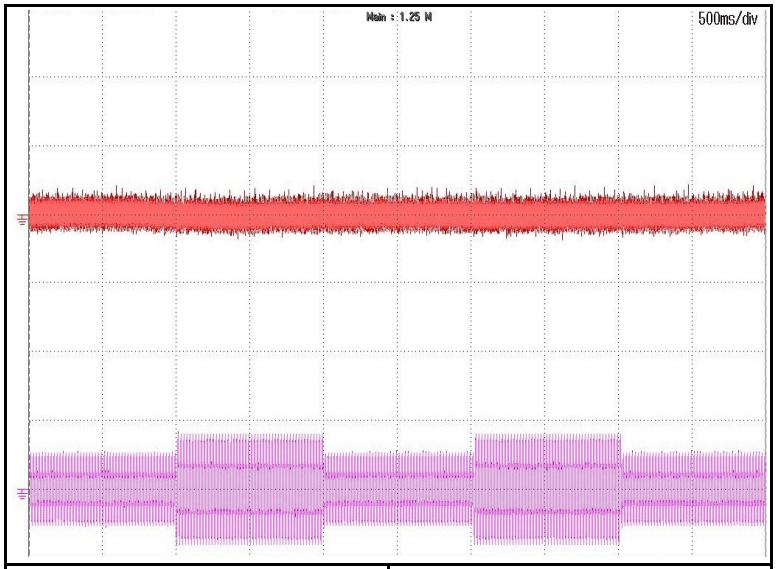
Conditions: Vout: 100%
Iout: 100%
Vin:85↔132V



Vout: $50^{mv}/_{DIV}$	$500^{ms}/_{DIV}$
Vin: $500^{v}/_{DIV}$	

G60-28

Conditions: Vout: 100%
Iout: 100%
Vin:170↔265V



Vout: $50^{mv}/_{DIV}$	$500^{ms}/_{DIV}$
Vin: $500^{v}/_{DIV}$	

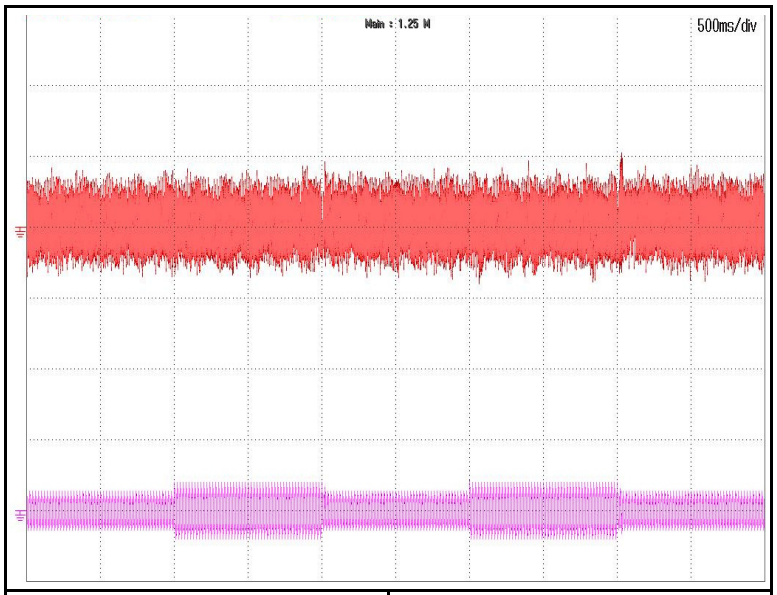
2.7 Dynamic line response characteristics

Ta = 25℃

C.V mode

G150-11.2

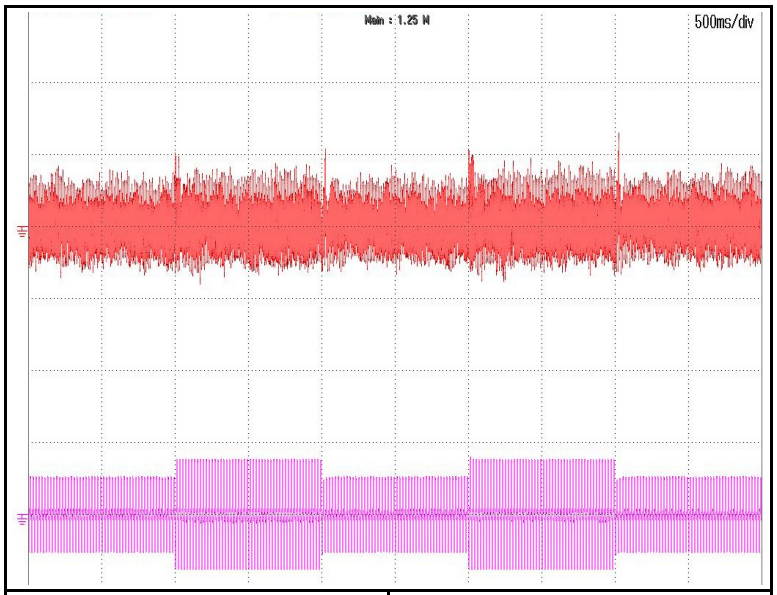
Conditions: Vout: 100%
Iout: 100%
Vin:85↔132V



Vout: 20$^{mv}/_{DIV}$	500$^{ms}/_{DIV}$
Vin: 500$^{KV}/_{DIV}$	

G150-11.2

Conditions: Vout: 100%
Iout: 100%
Vin:170↔265V



Vout: 20$^{mv}/_{DIV}$	500$^{ms}/_{DIV}$
Vin: 500$^{KV}/_{DIV}$	

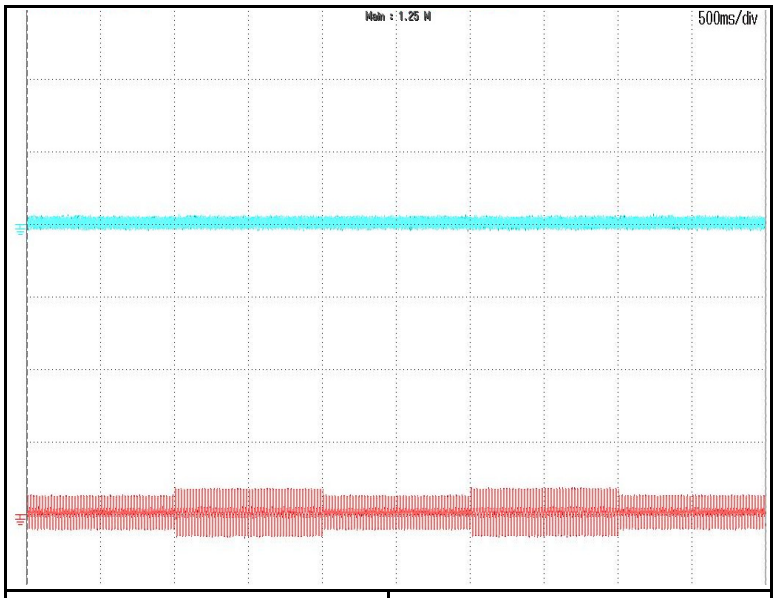
2.7 Dynamic line response characteristics

Ta = 25℃

C.V mode

G600-2.8

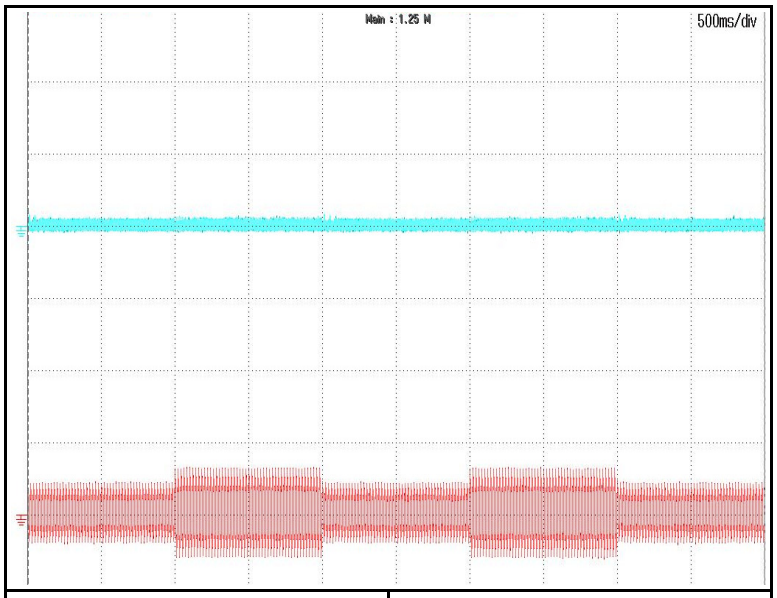
Conditions: Vout: 100%
Iout: 100%
Vin:85↔132V



Vout: $1^{V}/_{DIV}$	$500^{ms}/_{DIV}$
Vin: $600^{V}/_{DIV}$	

G600-2.8

Conditions: Vout: 100%
Iout: 100%
Vin:170↔265V



Vout: $1^{V}/_{DIV}$	$500^{ms}/_{DIV}$
Vin: $600^{V}/_{DIV}$	

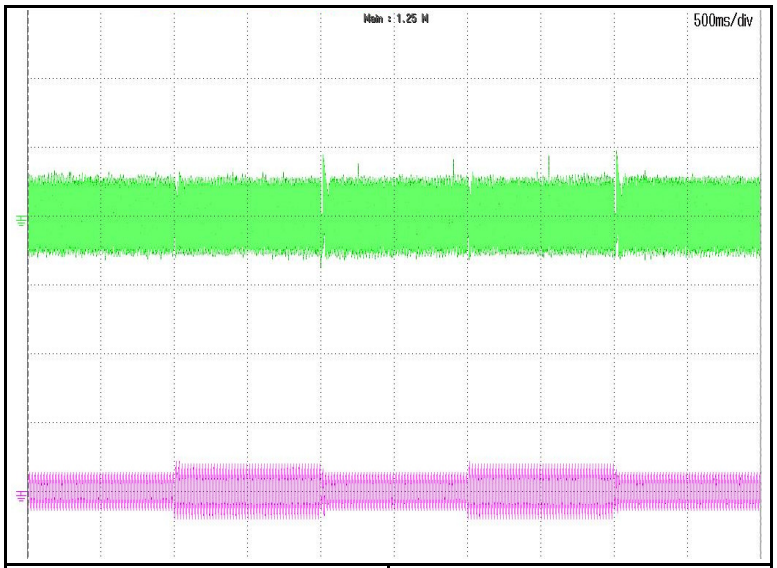
2.7 Dynamic line response characteristics

Ta = 25℃

C.C mode

G10-170

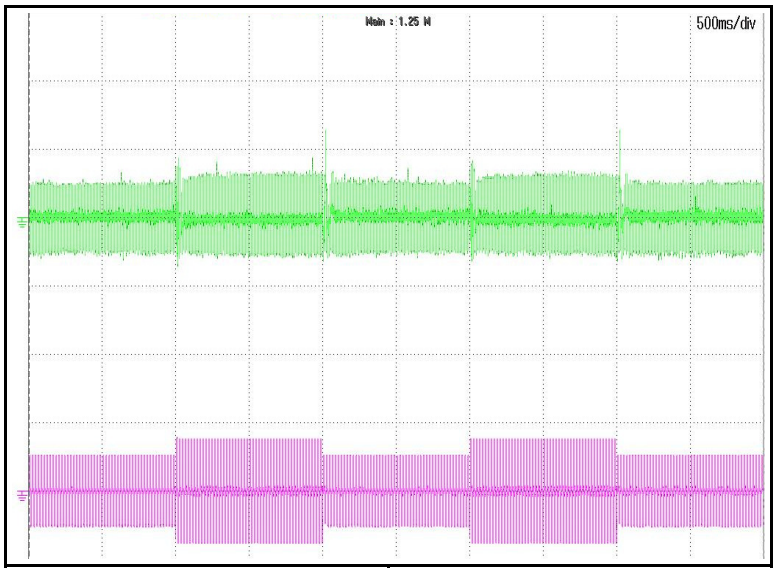
Conditions: Vout: 100%
Iout: 100%
Vin:85↔132V



Iout: 0.5A/DIV	500ms/DIV
Vin: 500v/DIV	

G10-170

Conditions: Vout: 100%
Iout: 100%
Vin:170↔265V



Iout: 0.5A/DIV	500ms/DIV
Vin: 500v/DIV	

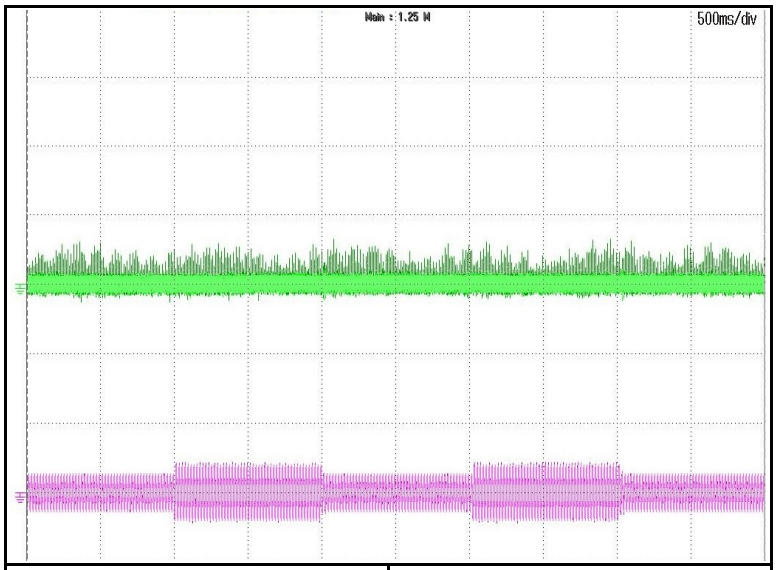
2.7 Dynamic line response characteristics

Ta = 25℃

C.C mode

G60-28

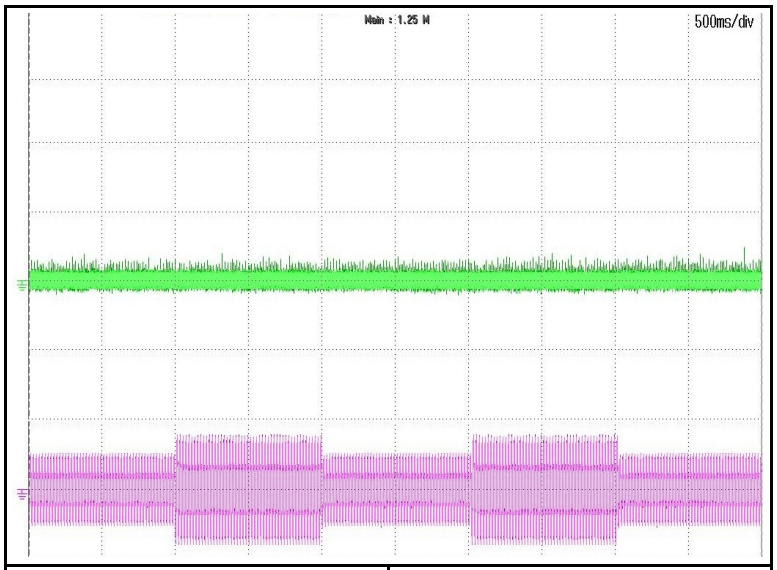
Conditions: Vout: 100%
Iout: 100%
Vin:85↔132V



Iout: 50mA/DIV	500ms/DIV
Vin: 500v/DIV	

G60-28

Conditions: Vout: 100%
Iout: 100%
Vin:170↔265V



Iout: 50mA/DIV	500ms/DIV
Vin: 500v/DIV	

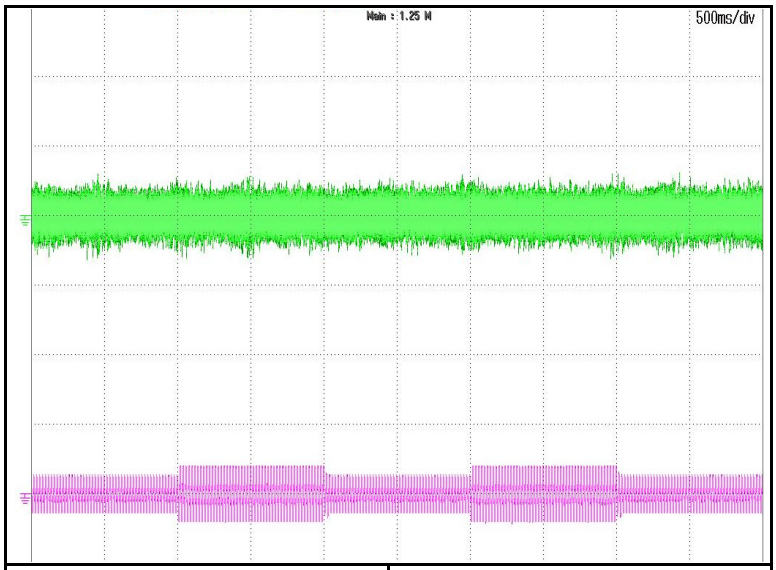
2.7 Dynamic line response characteristics

Ta = 25℃

C.C mode

G150-11.2

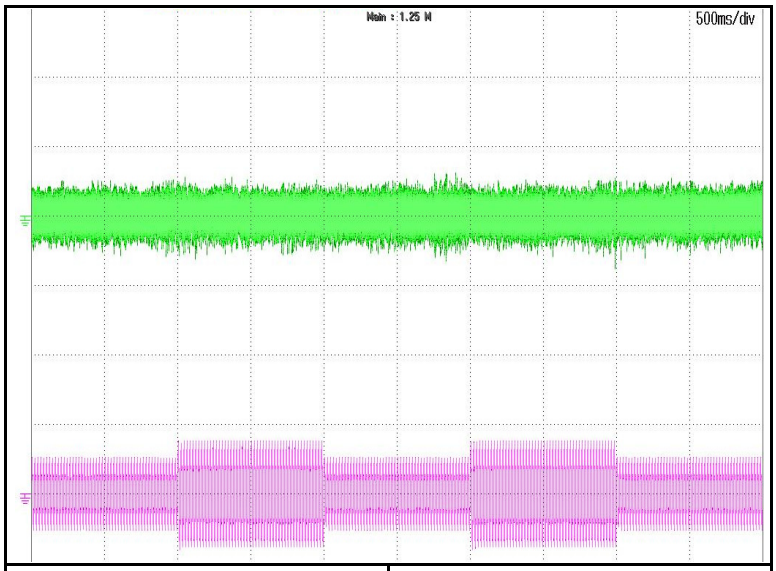
Conditions: Vout: 100%
Iout: 100%
Vin:85↔132V



Iout: 20mA/DIV	500ms/DIV
Vin: 500v/DIV	

G150-11.2

Conditions: Vout: 100%
Iout: 100%
Vin:170↔265V



Iout: 20mA/DIV	500ms/DIV
Vin: 500v/DIV	

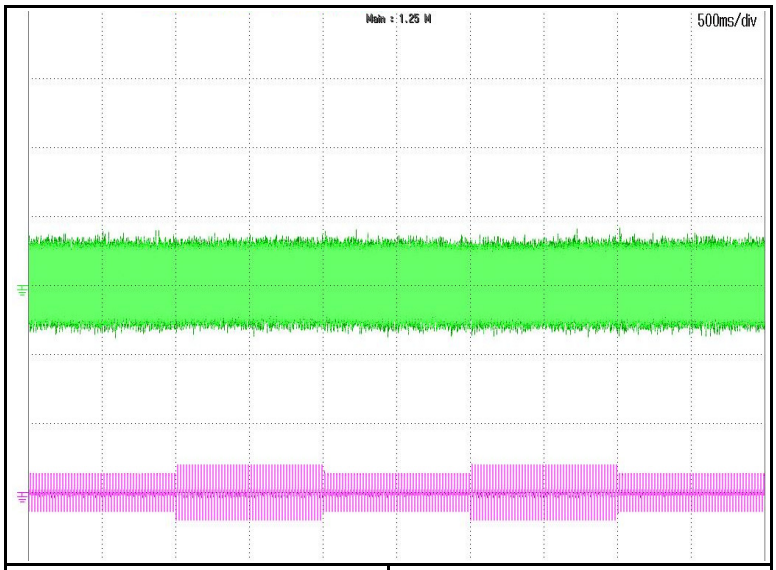
2.7 Dynamic line response characteristics

Ta = 25℃

C.C mode

G600-2.8

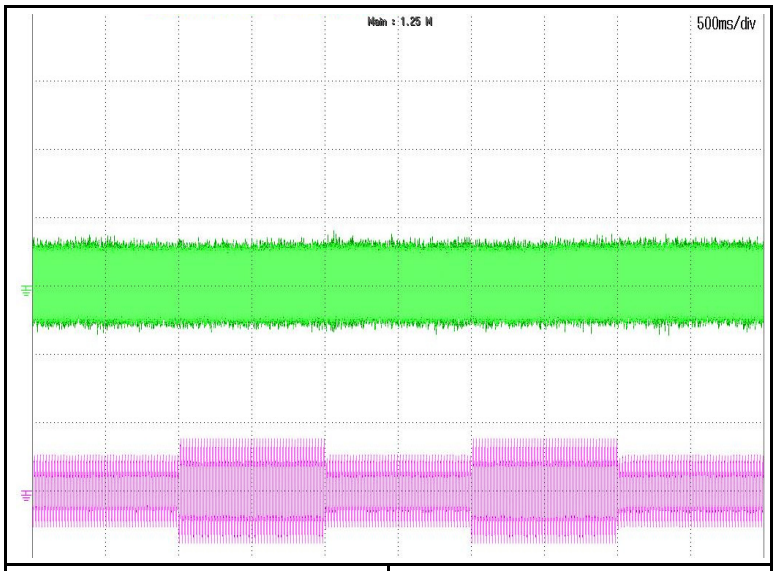
Conditions: Vout: 100%
Iout: 100%
Vin:85↔132V



Iout: 20mA/DIV	500ms/DIV
Vin: 500v/DIV	

G600-2.8

Conditions: Vout: 100%
Iout: 100%
Vin:170↔265V



Iout: 20mA/DIV	500ms/DIV
Vin: 500v/DIV	

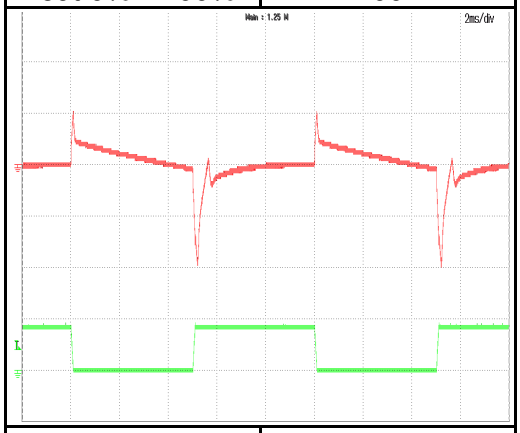
2.8 Dynamic load response characteristics

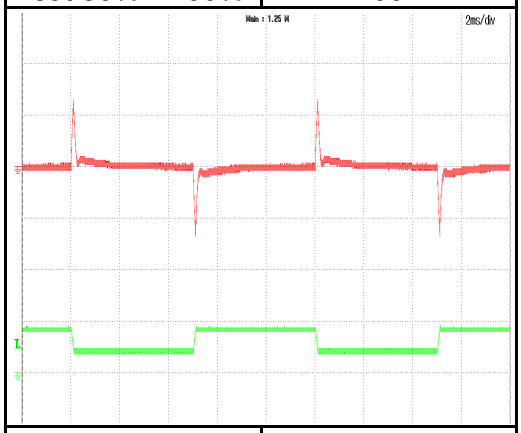
C.V mode

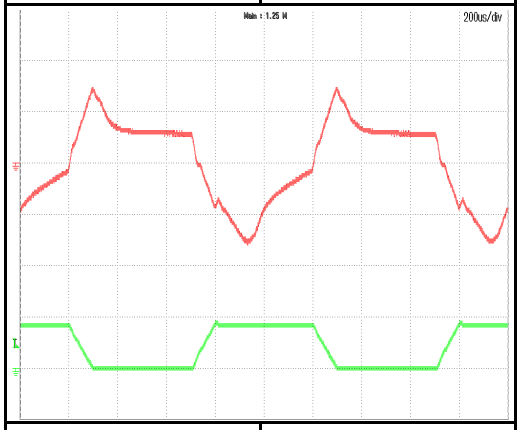
Conditions: Vin: Nominal
Vout: 100%
Ta = 25℃

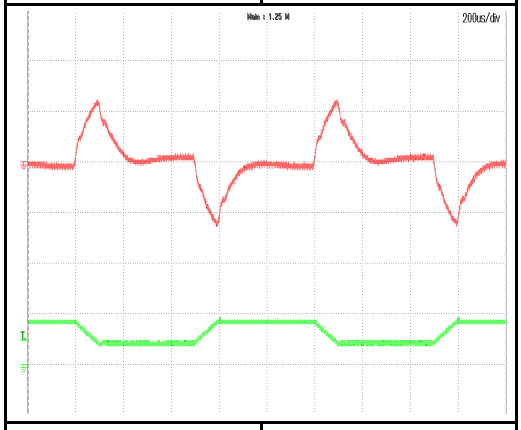
Load current: tr=tf=100us

G10-170

Iout:0%↔100%	f:100Hz
	
500mV/DIV	2ms/DIV
5.20%	-10.00%

Iout:50%↔100%	f:100Hz
	
200mV/DIV	2ms/DIV
2.64%	-2.72%

Iout:0%↔100%	f:1KHz
	
500mV/DIV	200us/DIV
7.40%	-8.00%

Iout:50%↔100%	f:1KHz
	
0.2V/DIV	200us/DIV
2.48%	-2.56%

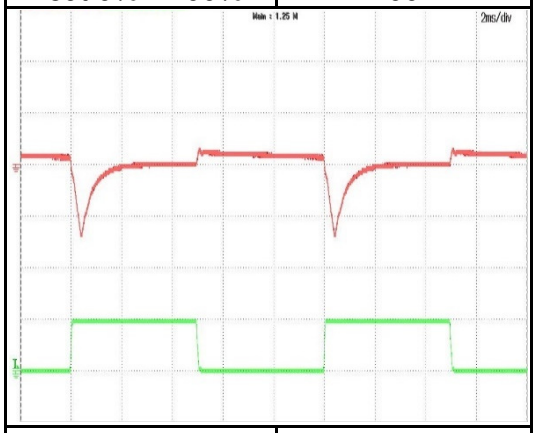
2.8 Dynamic load response characteristics

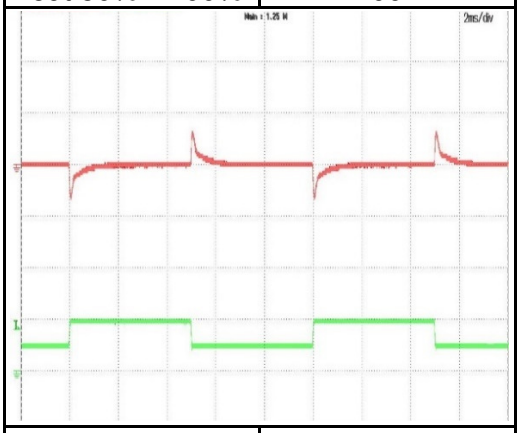
C.V mode

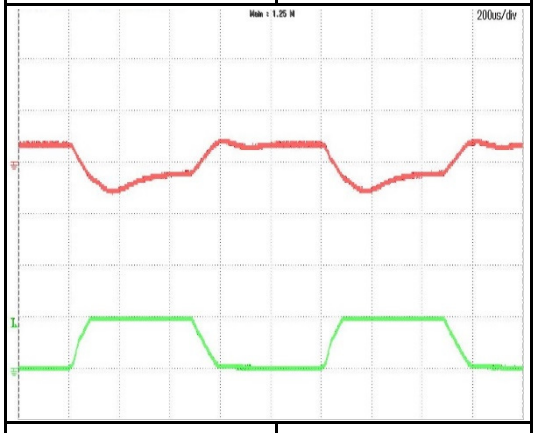
Conditions: Vin: Nominal
Vout: 100%
Ta = 25℃

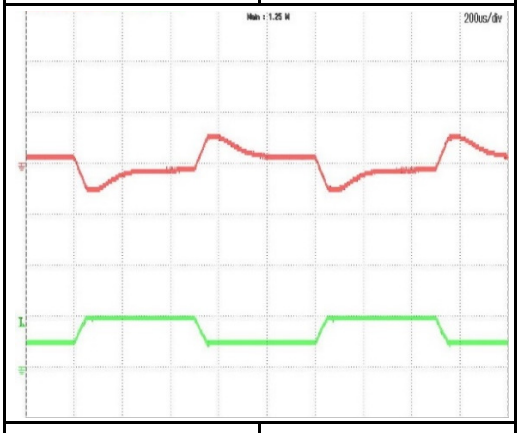
Load current: tr=tf=100us

G60-28

Iout:0%↔100%	f:100Hz
	
$2^{V}/_{DIV}$	$2^{ms}/_{DIV}$
1.07%	-4.67%

Iout:50%↔100%	f:100Hz
	
$500^{mV}/_{DIV}$	$2^{ms}/_{DIV}$
0.53%	-0.57%

Iout:0%↔100%	f:1KHz
	
$1^{V}/_{DIV}$	$200^{us}/_{DIV}$
0.73%	-1.07%

Iout:50%↔100%	f:1KHz
	
$500^{mV}/_{DIV}$	$200^{us}/_{DIV}$
0.47%	-0.47%

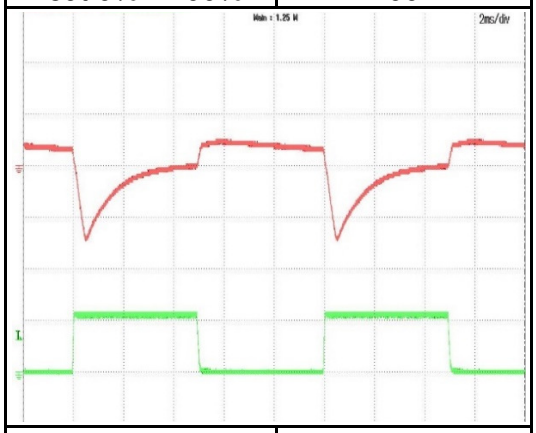
2.8 Dynamic load response characteristics

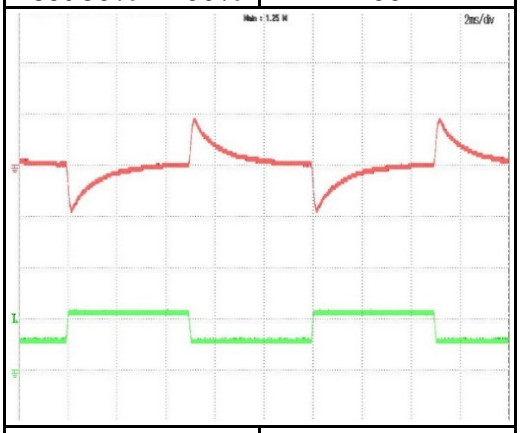
C.V mode

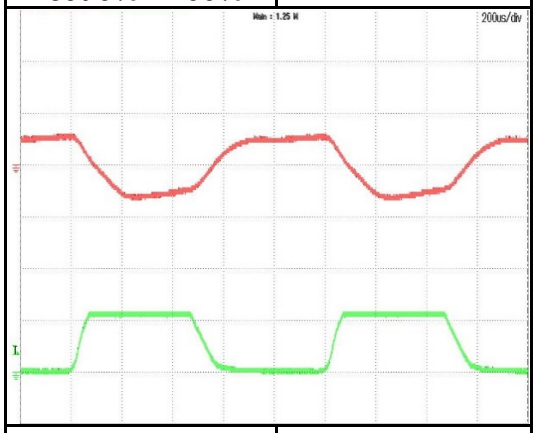
Conditions: Vin: Nominal
Vout: 100%
Ta = 25℃

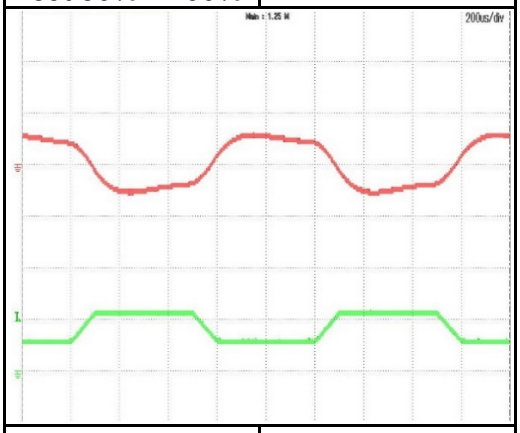
Load current: tr=tf=100us

G150-11.2

Iout:0%↔100%	f:100Hz
	
$2^{V}/_{DIV}$	$2^{ms}/_{DIV}$
0.69%	-1.97%

Iout:50%↔100%	f:100Hz
	
$0.5^{V}/_{DIV}$	$2^{ms}/_{DIV}$
0.31%	-0.31%

Iout:0%↔100%	f:1KHz
	
$1^{V}/_{DIV}$	$200^{us}/_{DIV}$
0.40%	-0.45%

Iout:50%↔100%	f:1KHz
	
$500^{mV}/_{DIV}$	$200^{us}/_{DIV}$
0.21%	-0.20%

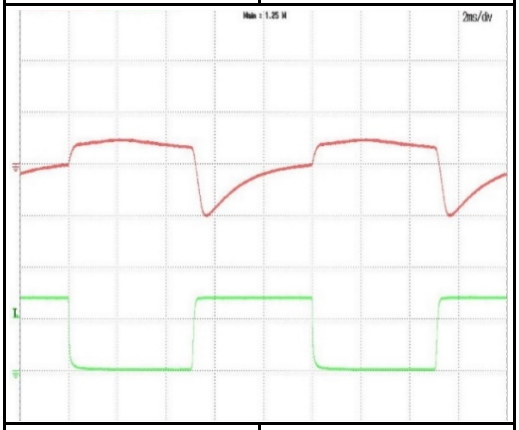
2.8 Dynamic load response characteristics

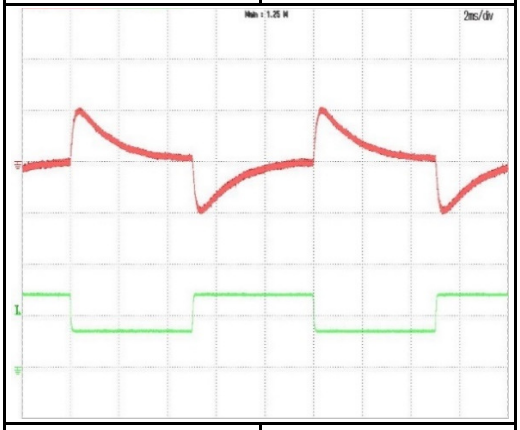
C.V mode

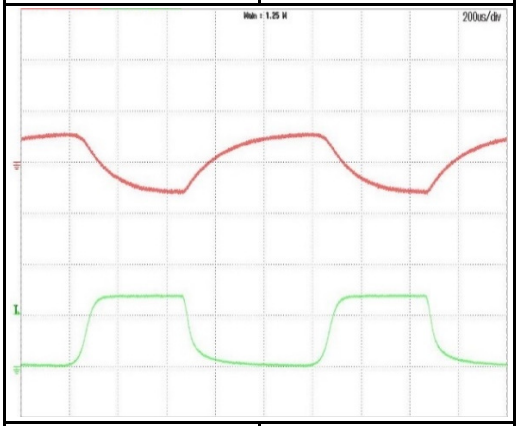
Conditions: Vin: Nominal
Vout: 100%
Ta = 25℃

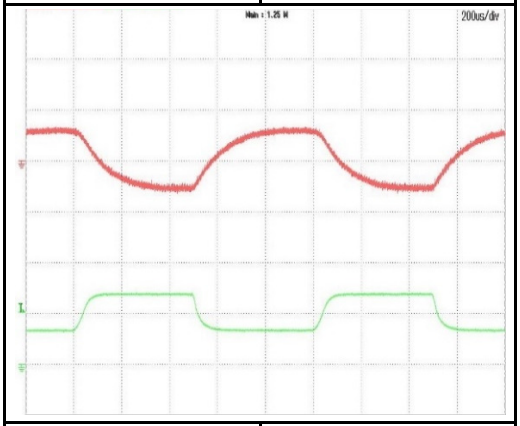
Load current: tr=tf=100us

G600-2.8

Iout:0%↔100%	f:100Hz
	
$5^{V}/_{DIV}$	$2^{ms}/_{DIV}$
0.41%	-0.86%

Iout:50%↔100%	f:100Hz
	
$1^{V}/_{DIV}$	$2^{ms}/_{DIV}$
0.18%	-0.17%

Iout:0%↔100%	f:1KHz
	
$2^{V}/_{DIV}$	$200^{us}/_{DIV}$
0.19%	-0.21%

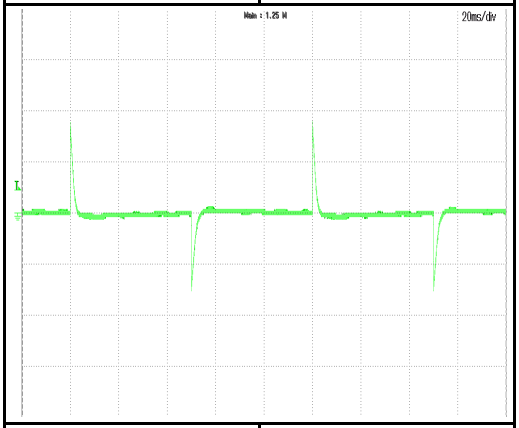
Iout:50%↔100%	f:1KHz
	
$0.5^{V}/_{DIV}$	$200^{us}/_{DIV}$
0.11%	-0.11%

2.8 Dynamic load response characteristics
C.C mode

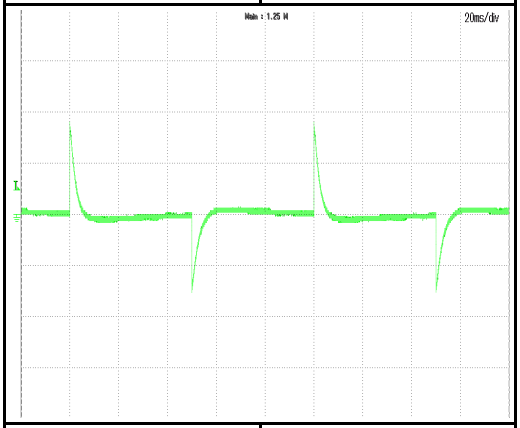
Conditions: Vin: Nominal
Ta = 25℃

G10-170

Io=170A

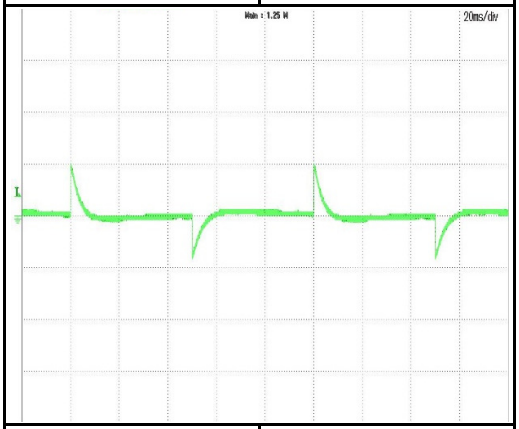
Vout:9↔7.5V	f:10Hz
	
$20^{A}/_{DIV}$	$20^{ms}/_{DIV}$
-17.88%	

Io=85A

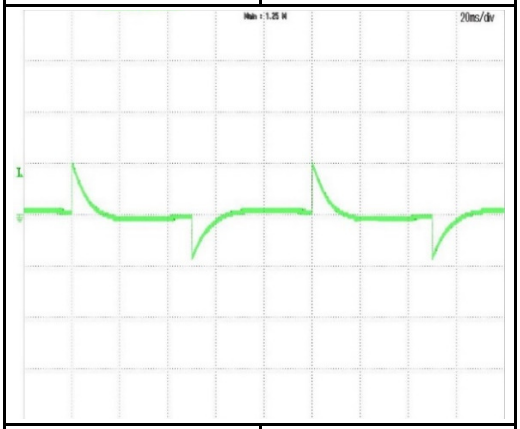
Vout:9↔7.5V	f:10Hz
	
$10^{A}/_{DIV}$	$20^{ms}/_{DIV}$
-8.94%	

G60-28

Io=28A

Vout:54↔45V	f:10Hz
	
$6^{A}/_{DIV}$	$20^{ms}/_{DIV}$
-18.00%	

Io=14A

Vout:54↔45V	f:10Hz
	
$3^{A}/_{DIV}$	$20^{ms}/_{DIV}$
-9.43%	

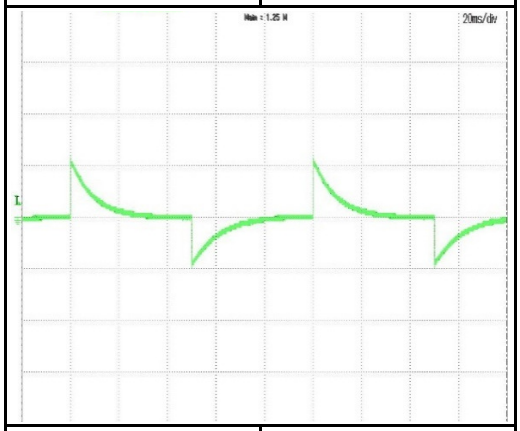
2.8 Dynamic load response characteristics
C.C mode

Conditions: Vin: Nominal
Ta = 25℃

G150-11.2

Io=11.2A

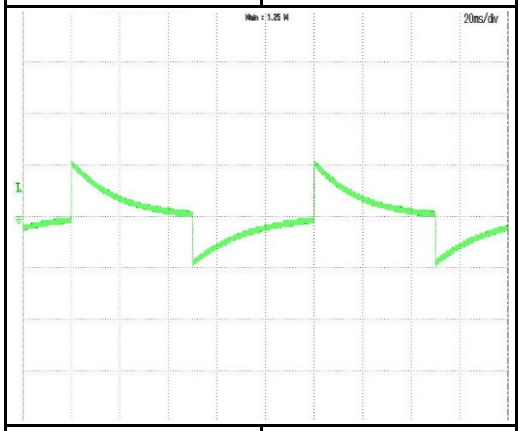
Vout:135↔112.5V	f:10Hz



$2^{A}/_{DIV}$	$20^{ms}/_{DIV}$
-17.86%	

Io=5.6A

Vout:135↔112.5V	f:10Hz

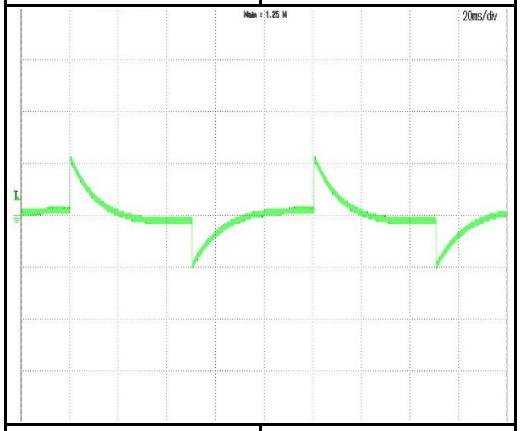


$1^{A}/_{DIV}$	$20^{ms}/_{DIV}$
-8.57%	

G600-2.8

Io=2.8A

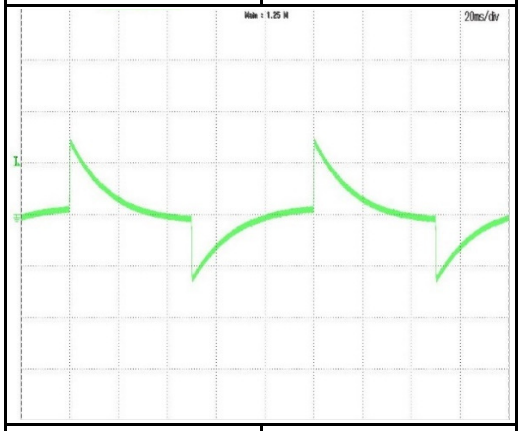
Vout:540↔450V	f:10Hz



$500^{mA}/_{DIV}$	$20^{ms}/_{DIV}$
-18.57%	

Io=1.4A

Vout:540↔450V	f:10Hz



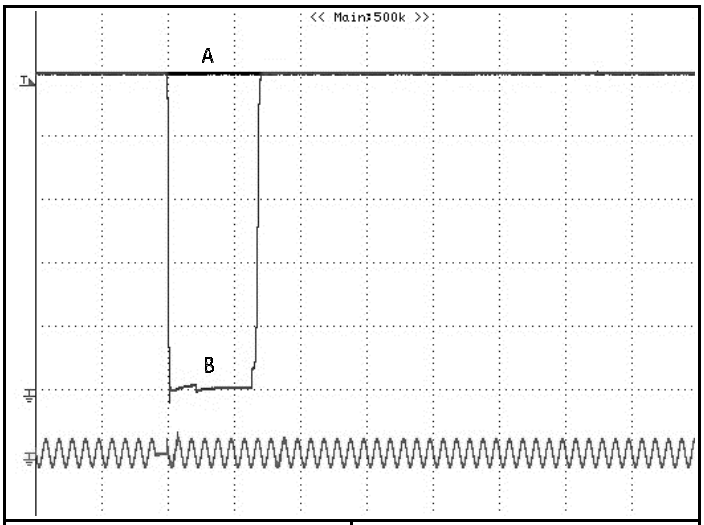
$200^{mA}/_{DIV}$	$20^{ms}/_{DIV}$
-9.36%	

2.9 Response to brown-out characteristics
C.V mode

Conditions: Vout: 100%
Iout: 100%
Ta = 25℃

G10-170

Vin:100VAC

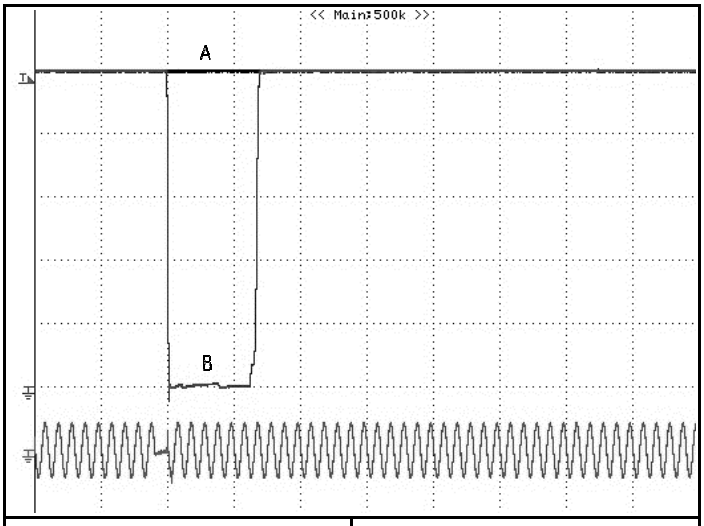


Vout: $2^{V}/_{DIV}$	$100^{ms}/_{DIV}$
Vin:600V/div	

Brown-out time
A: 16mS
B: 17mS

G10-170

Vin:200VAC



Vout: $2^{V}/_{DIV}$	$100^{ms}/_{DIV}$
Vin: $600^{V}/_{DIV}$	

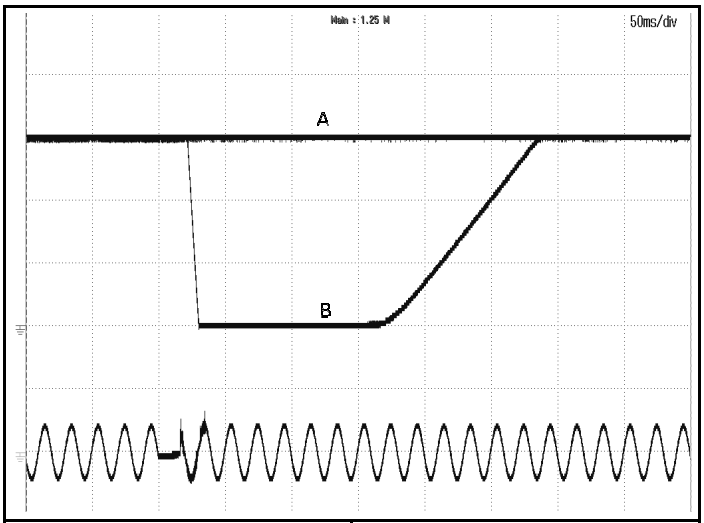
Brown-out time
A: 17mS
B: 18mS

2.9 Response to brown-out characteristics
C.V mode

Conditions: Vout: 100%
Iout: 100%
Ta = 25℃

G60-28

Vin:100VAC

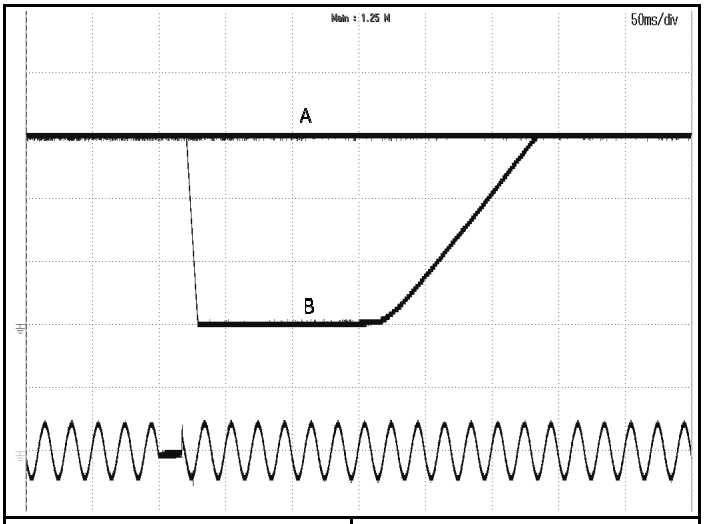


Vout: 20V/DIV	50ms/DIV
Vin: 350V/DIV	

Brown-out time
A: 16.0mS
B: 16.5mS

G60-28

Vin:200VAC



Vout: 20V/DIV	50ms/DIV
Vin: 700V/div	

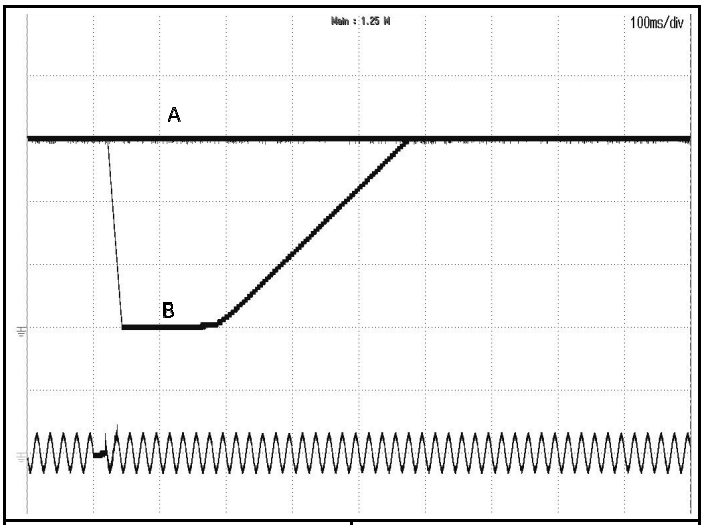
Brown-out time
A: 17.0mS
B: 17.5mS

2.9 Response to brown-out characteristics
C.V mode

Conditions: Vout: 100%
Iout: 100%
Ta = 25℃

G150-11.2

Vin:100VAC

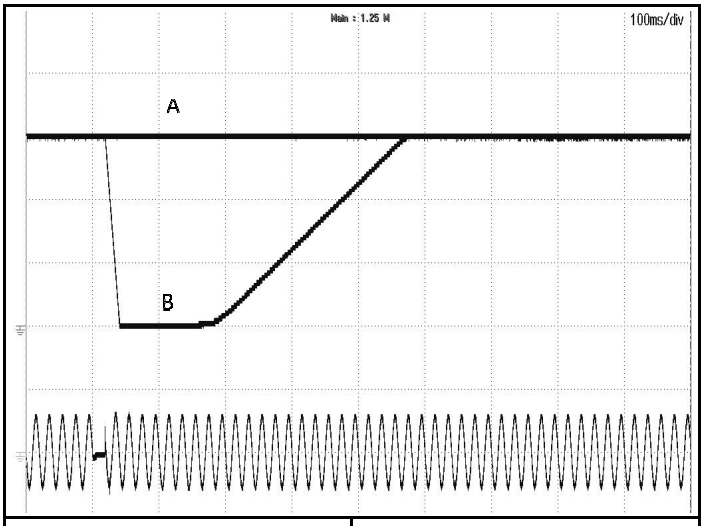


Vout: 50V/DIV	100ms/DIV
Vin: 500V/DIV	

Brown-out time
A: 16mS
B: 17mS

G150-11.2

Vin:200VAC



Vout: 50V/DIV	100ms/DIV
Vin: 500V/DIV	

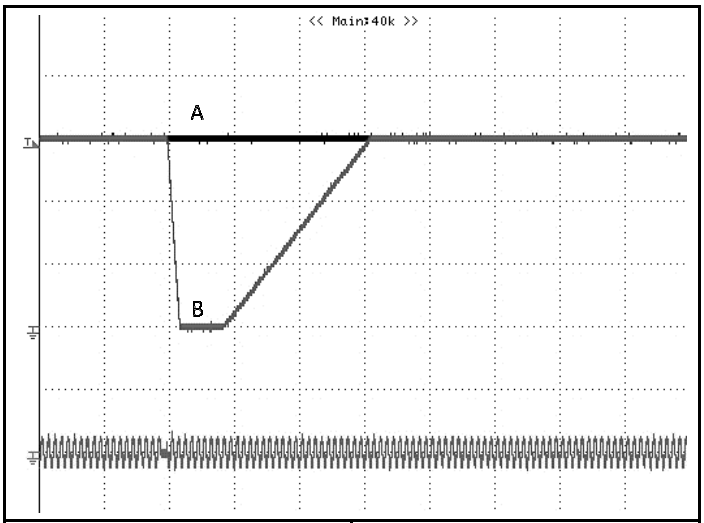
Brown-out time
A: 17mS
B: 18mS

2.9 Response to brown-out characteristics
C.V mode

Conditions: Vout: 100%
Iout: 100%
Ta = 25℃

G600-2.8

Vin:100VAC

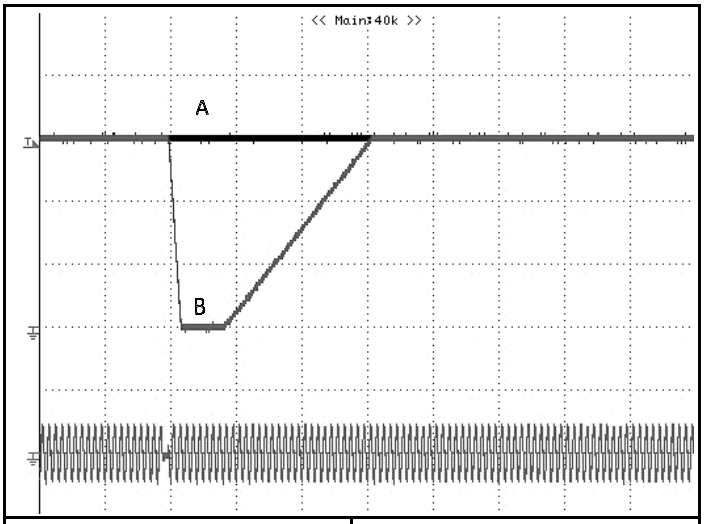


Vout: 200V/DIV	200ms/DIV
Vin: 600V/DIV	

Brown-out time
A:17mS
B:18mS

G600-2.8

Vin:200VAC



Vout: 200V/DIV	200ms/DIV
Vin: 600V/DIV	

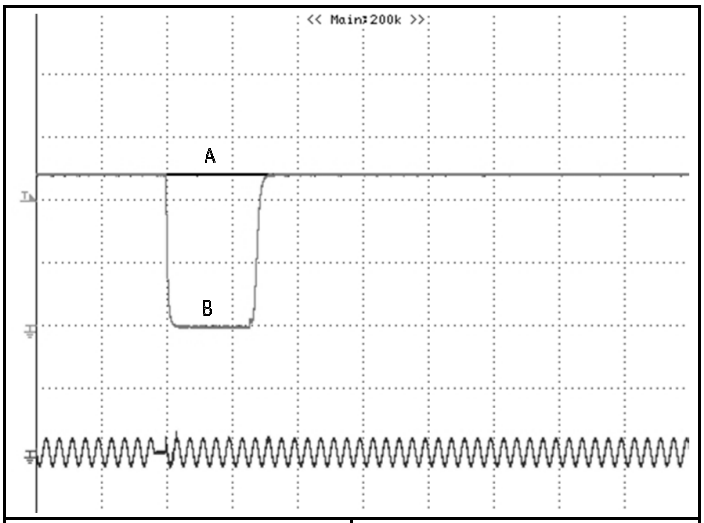
Brown-out time
A:18mS
B:19mS

2.9 Response to brown-out characteristics
C.C mode

Conditions:
Vout: 100%
Iout: 100%
Ta = 25℃

G10-170

Vin:100VAC

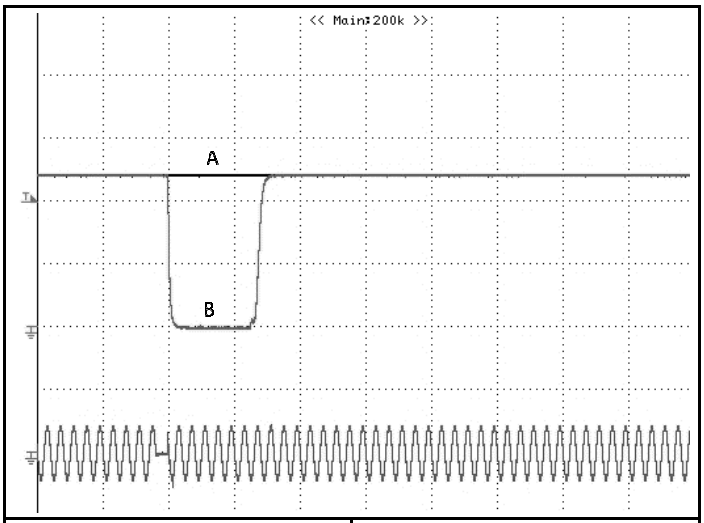


Iout: 70A/DIV	100ms/DIV
Vin: 600V/DIV	

Brown-out time
A: 16mS
B: 17mS

G10-170

Vin:200VAC



Iout: 70A/DIV	100ms/DIV
Vin: 600V/DIV	

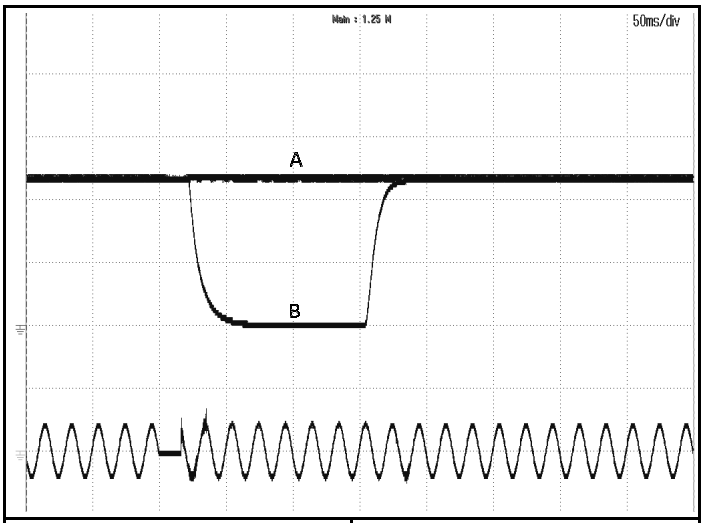
Brown-out time
A: 17mS
B: 18mS

2.9 Response to brown-out characteristics
C.C mode

Conditions: Vout: 100%
Iout: 100%
Ta = 25℃

G60-28

Vin:100VAC

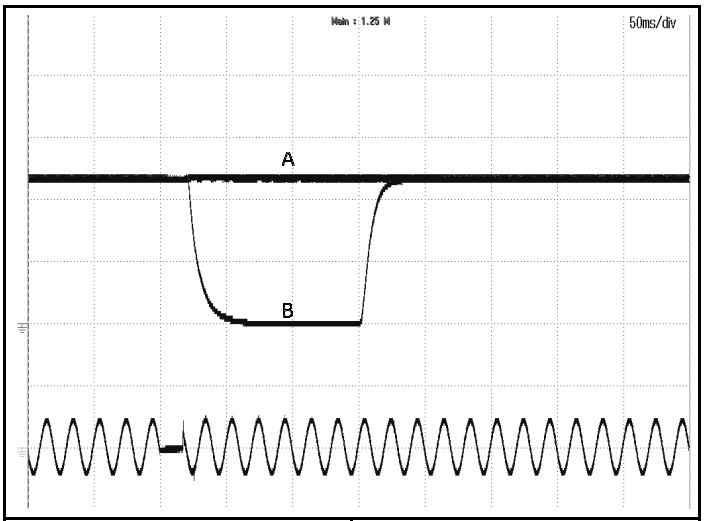


Iout: 12A/DIV	50ms/DIV
Vin: 350V/DIV	

Brown-out time
A: 16.0mS
B: 16.5mS

G60-28

Vin:200VAC



Iout: 12A/DIV	50ms/DIV
Vin: 700V/div	

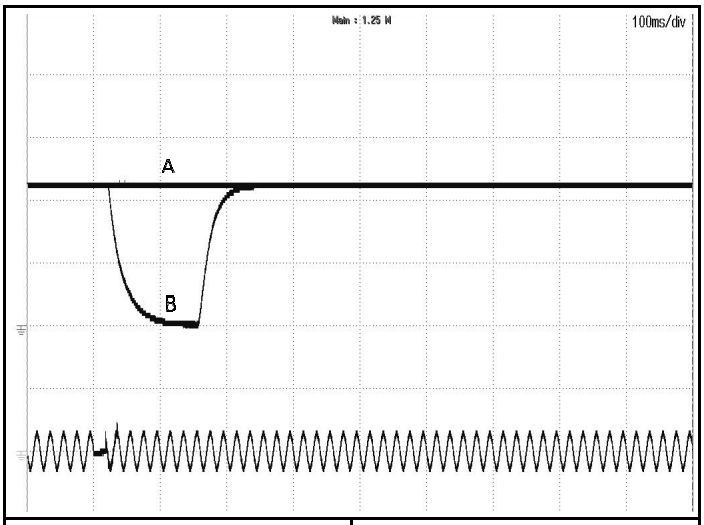
Brown-out time
A: 17.0mS
B: 17.5mS

2.9 Response to brown-out characteristics
C.C mode

Conditions: Vout: 100%
Iout: 100%
Ta = 25℃

G150-11.2

Vin:100VAC

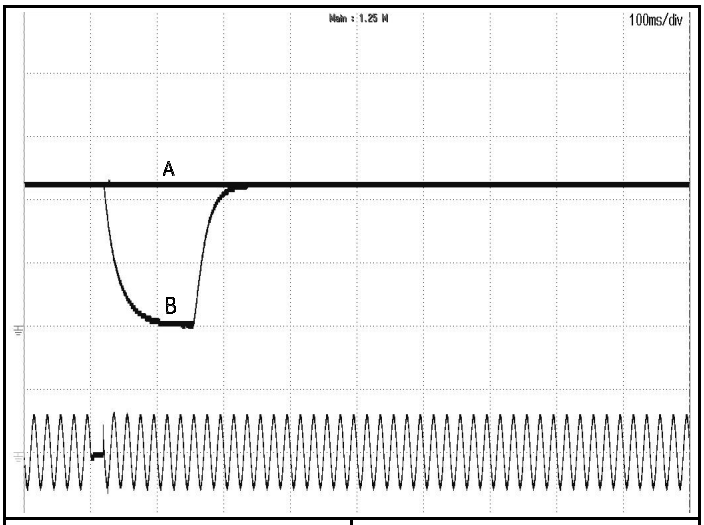


Iout: 5A/DIV	100ms/DIV
Vin: 500V/DIV	

Brown-out time
A: 16mS
B: 17mS

G150-11.2

Vin:200VAC



Iout: 5A/DIV	100ms/DIV
Vin: 500V/DIV	

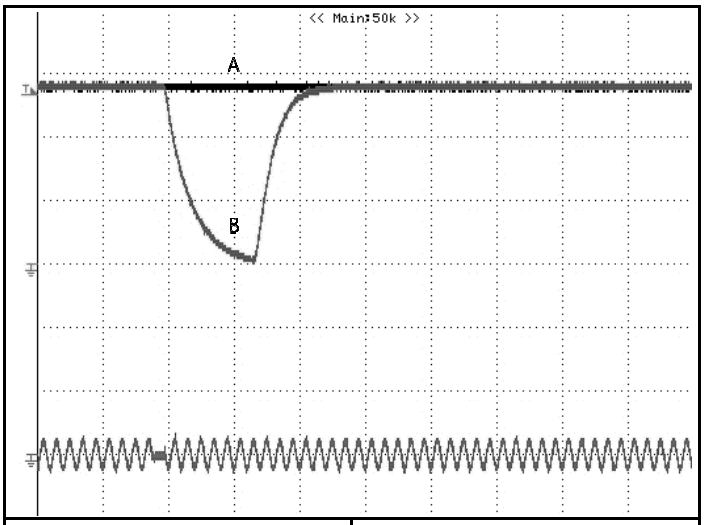
Brown-out time
A: 17mS
B: 18mS

2.9 Response to brown-out characteristics
C.C mode

Conditions: Vout: 100%
Iout: 100%
Ta = 25℃

G600-2.8

Vin:100VAC

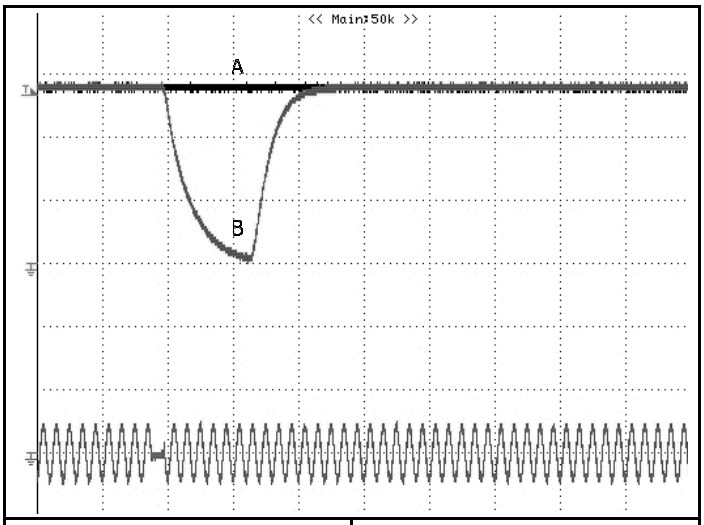


Iout: $1^{A}/_{DIV}$	$100^{ms}/_{DIV}$
Vin: $600^{V}/_{DIV}$	

Brown-out time
A: 17mS
B: 18mS

G600-2.8

Vin:200VAC

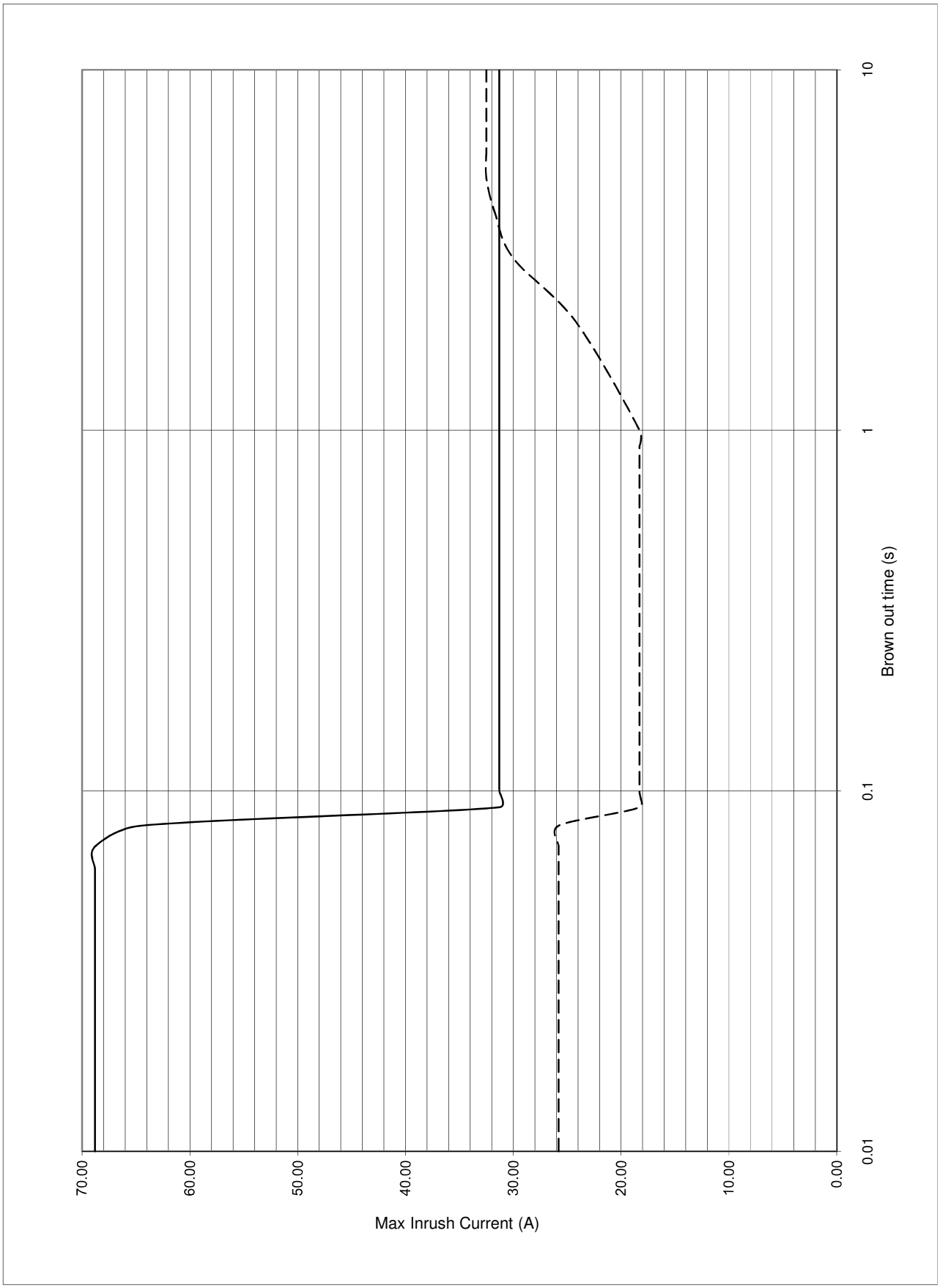


Iout: $1^{A}/_{DIV}$	$100^{ms}/_{DIV}$
Vin: $600^{V}/_{DIV}$	

Brown-out time
A: 18mS
B: 19mS

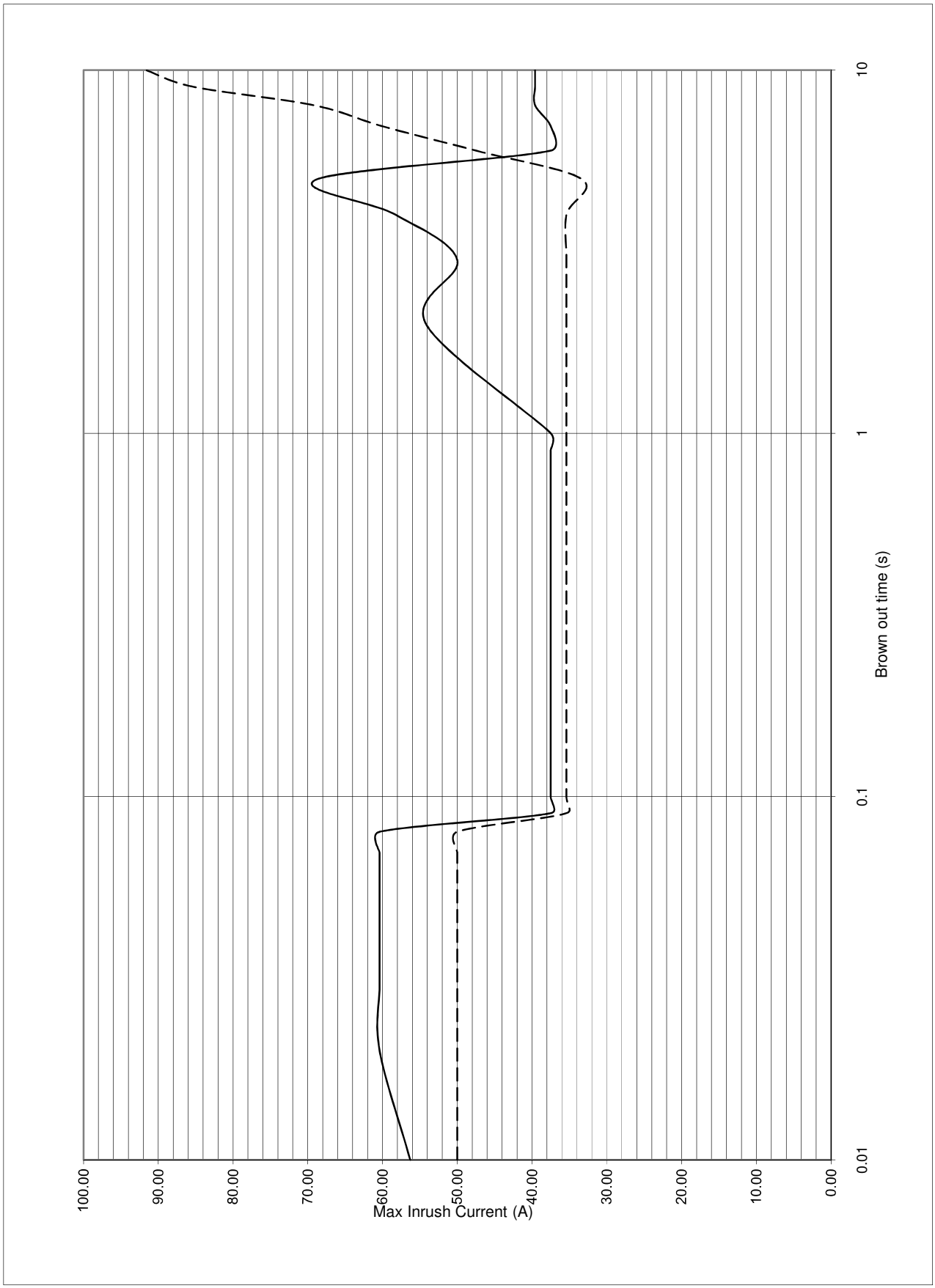
2.10 Inrush Current Characteristics

Conditions: Vout: 100%
Iout: 0% ----------
Iout: 100% ——————
Vin: 100VAC
Ta = 25℃



2.10 Inrush Current Characteristics

Conditions: Vout: 100%
Iout: 0% ----------
Iout: 100% ——————
Vin: 200VAC
Ta = 25℃

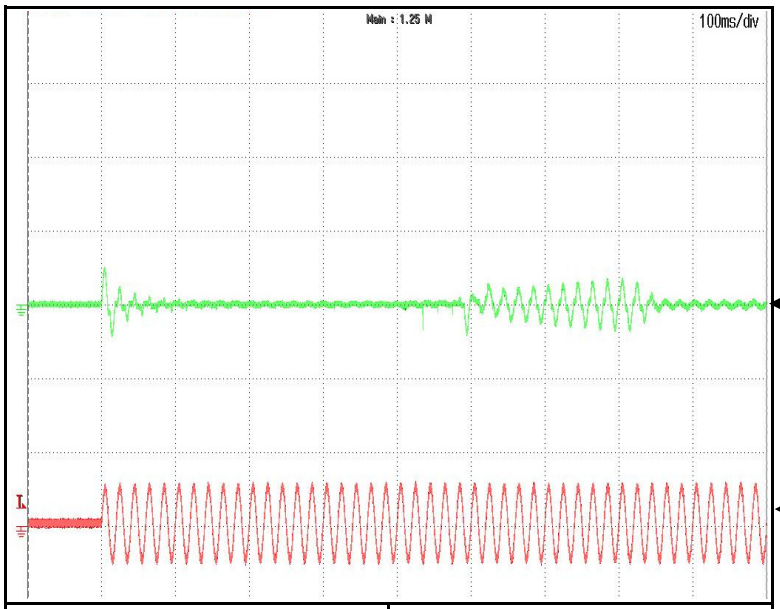


2.11 Inrush current waveform

Conditions: Vin: 100V
Vout: 100%
Iout: 100%
Ta = 25℃

Switch on phase angle of input AC voltage

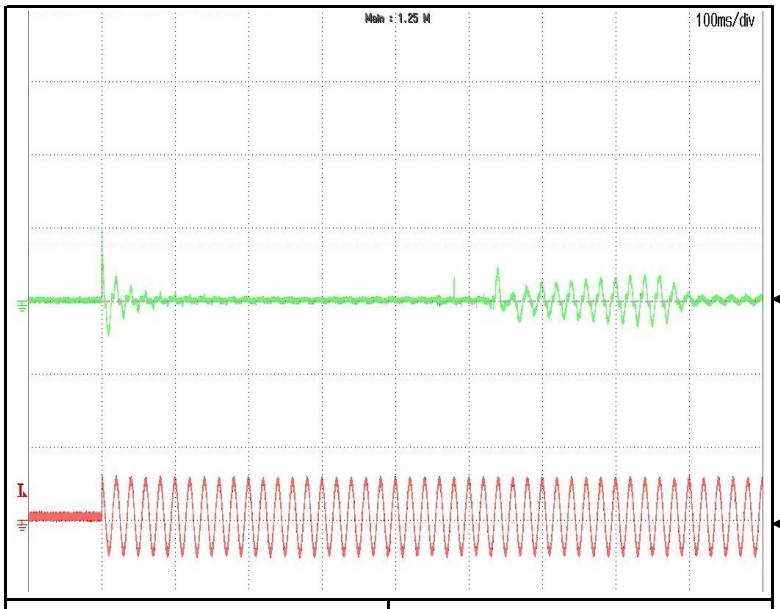
Φ=0˚



$20^{A}/_{DIV}$	$100^{ms}/_{DIV}$
$Vin:200v/_{DIV}$	

Switch on phase angle of input AC voltage

Φ=90˚



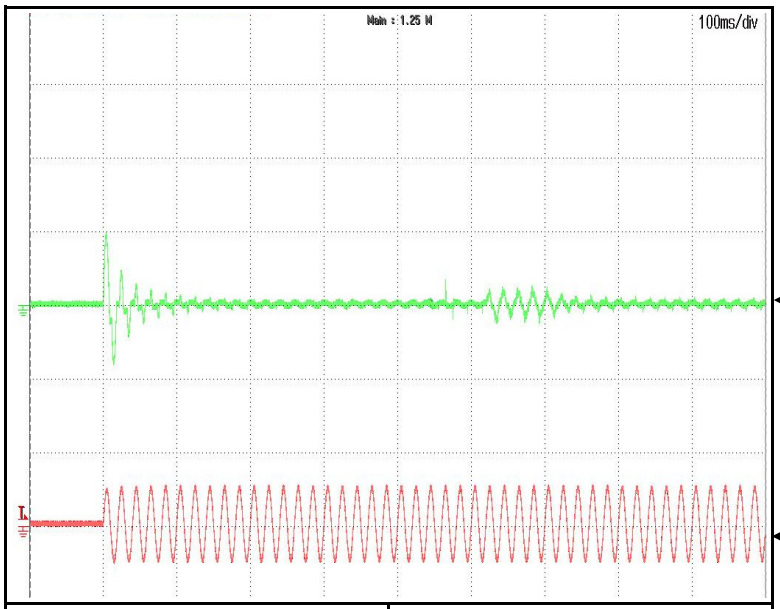
$20^{A}/_{DIV}$	$100^{ms}/_{DIV}$
$Vin:200v/_{DIV}$	

2.11 Inrush current waveform

Conditions: Vin: 200V
Vout: 100%
Iout: 100%
Ta = 25℃

Switch on phase angle of input AC voltage

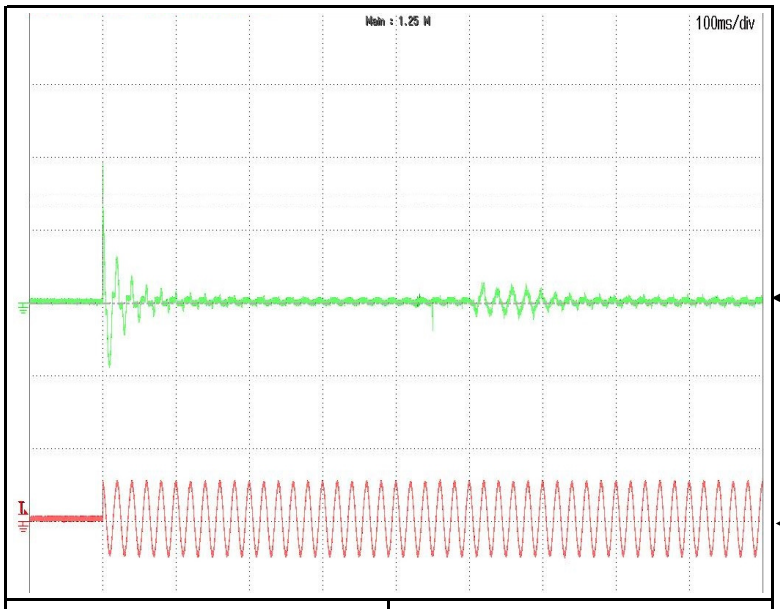
Φ=0˚



$20^{A}/_{DIV}$	$100^{ms}/_{DIV}$
$Vin:500v/_{DIV}$	

Switch on phase angle of input AC voltage

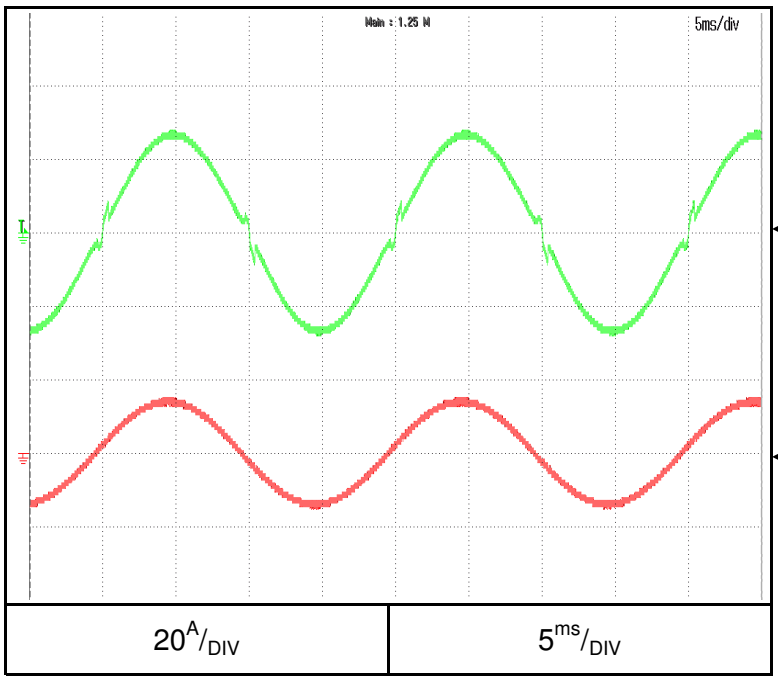
Φ=90˚



$20^{A}/_{DIV}$	$100^{ms}/_{DIV}$
$Vin:500v/_{DIV}$	

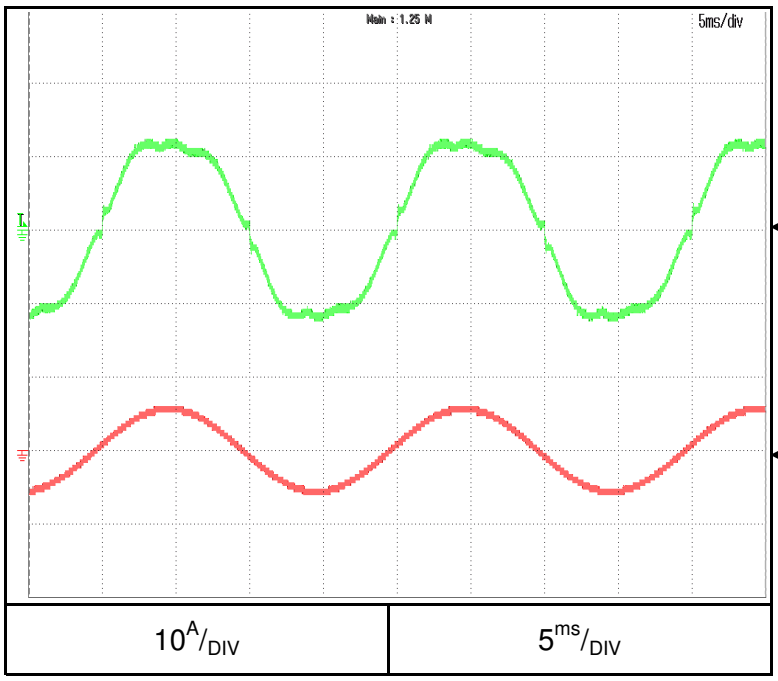
2.12 Input current waveform

Conditions: Vin: 100VAC
Vout: 100%
Iout: 100%
Ta = 25℃



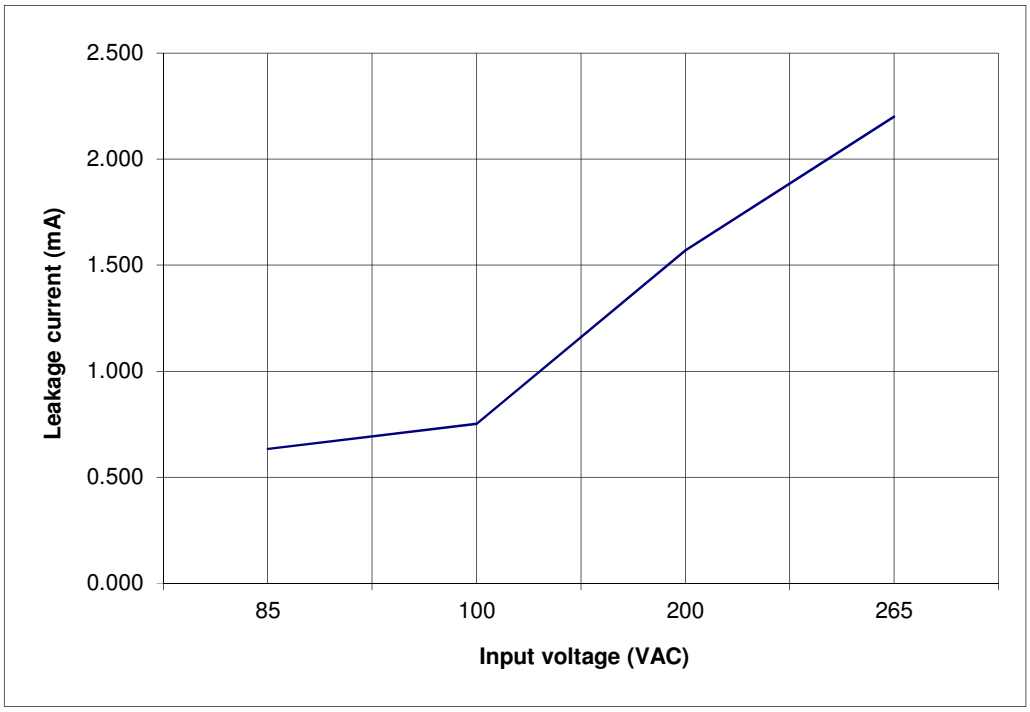
2.12 Input current waveform

Conditions: Vin: 200VAC
Vout: 100%
Iout: 100%
Ta = 25℃



2.13 Leakage current characteristics

Conditions: Ta = 25℃
f=60Hz



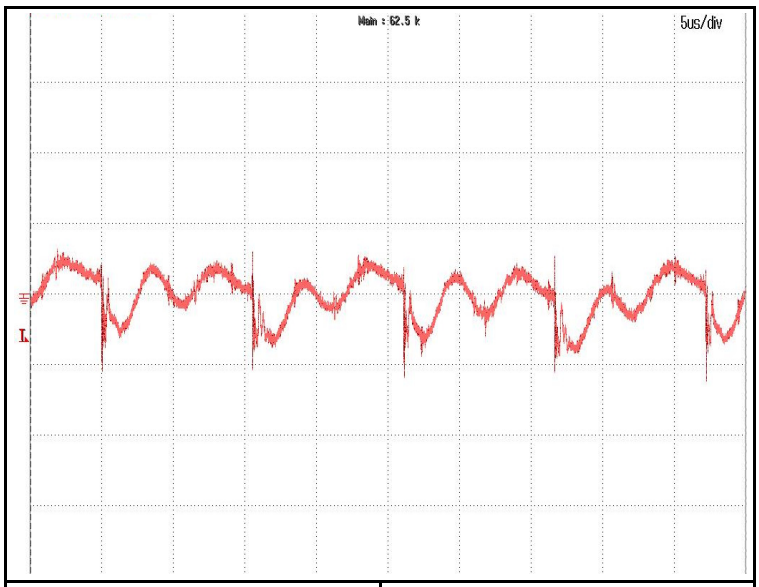
(*) TN & TT power system

2.14 Output ripple & noise waveform
C.V mode

Conditions: Vout: 100%
Iout: 100%
Ta = 25℃

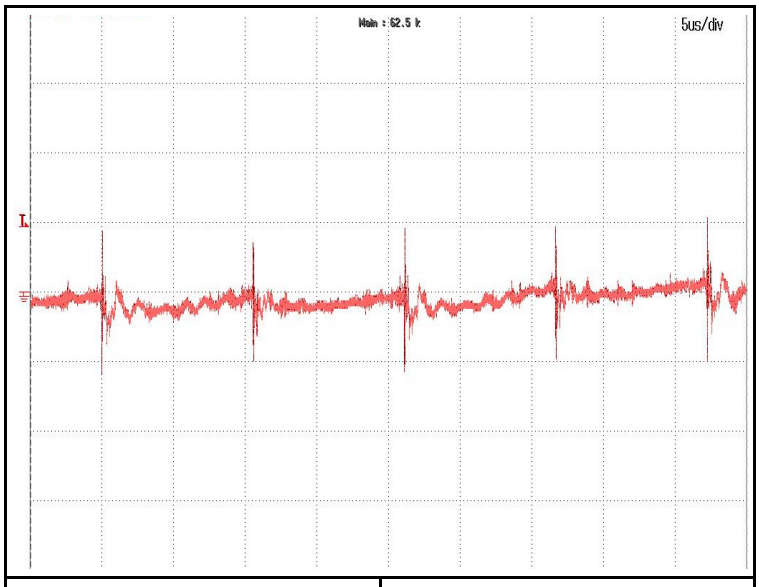
Normal Mode

G10-170



$10^{mV}/_{DIV}$	$5^{us}/_{DIV}$

G60-28



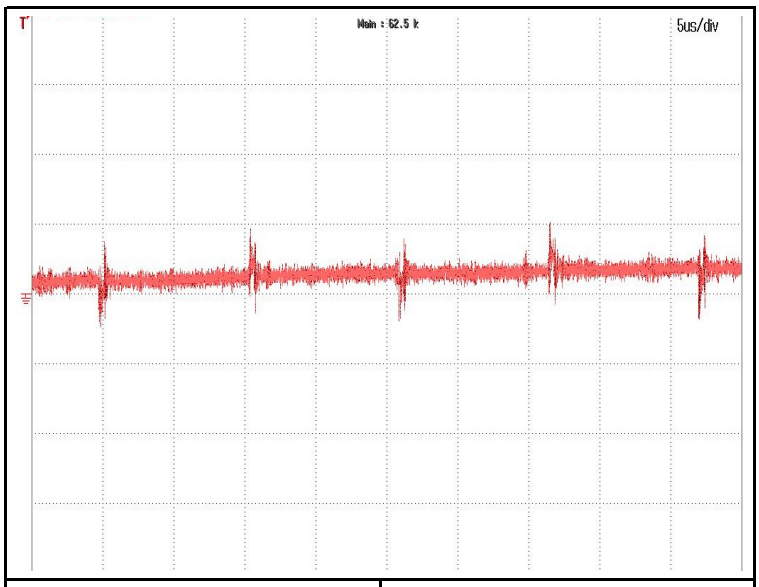
$10^{mV}/_{DIV}$	$5^{us}/_{DIV}$

2.14 Output ripple & noise waveform
C.V mode

Conditions: Vout: 100%
Iout: 100%
Ta = 25℃

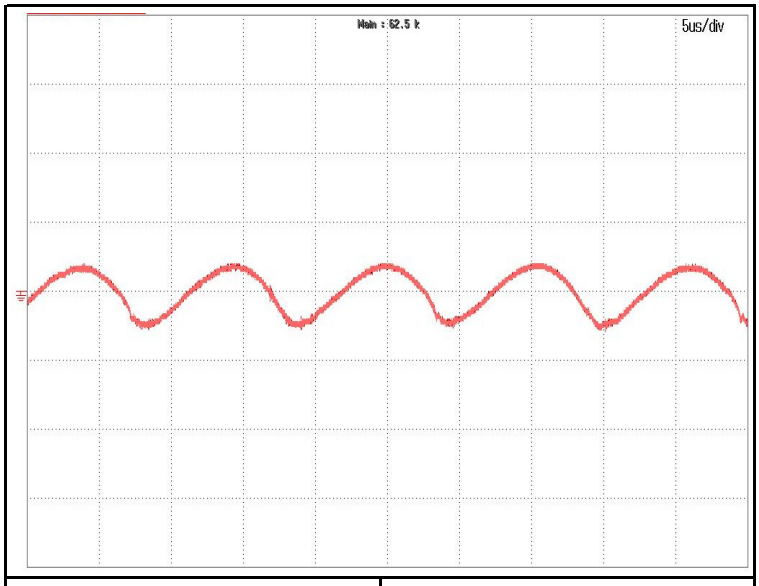
Normal Mode

G150-11.2



$10^{mV}/_{DIV}$	$5^{us}/_{DIV}$

G600-2.8



$50^{mV}/_{DIV}$	$5^{us}/_{DIV}$